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GOVERNMENT OF INDIA
PLANNING COMMISSION

# SECOND FIVE YEAR PLAN
# PROGRESS REPORT
## 1958-59

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April, 1960

# PLANNING COMMISSION

Three previous publications of the Planning Commission, namely, "Appraisal and Prospects of the Second Five Year Plan (May 1958)", "State Development Plans—Review of Progress (May 1958)" and "Plan Resources and Outlay—A Review (July 1959)" assessed the main developments during the first two years of the Second Plan. The present document, while primarily reviewing the progress attained during the third year of the Second Plan, also takes an overall view of the developments since the beginning of the Second Plan.

NEW DELHI;
April 9, 1960.

## PLANNING COMMISSION

Corrigenda to the "Second Five Year
Plan - Progress Report 1958-59"

| Page | Para/Table | Line/Col. | Nature of change |
|---|---|---|---|
| 1 | 3 | 8 | For "had risen" read "rose" |
| 2 | 2 | 1 | Delete "of" after "estimates" |
| 2 | First table | - | For "Net output" read "National income" |
| 2 | First table | - | For "per capital output" read "per capital income" |
| 3 | 1 | 2 | Add "62.5 million tons in 1957-58 and" after "as against" |
| 5 | 3 | 6 | For "expansion" read "extension" |
| 6 | 1 | 2 | For "February" read "mid-February" |
| 9 | Second table Items A,B,C. | | Delete "of which" |
| 10 | 2 | 7 | For "cotton textiles and yarn were given certain quotas for the import of raw" read "and the duty on raw cotton reduced. Licences for imported raw" |
| 12 | Table heading | | For "Principal Targets" read "Princi |

|  |  |  |  |
|---|---|---|---|
|  |  |  | and Achievements" |
| 18 | 3 | 6 | For "the stage" read "this stage" |
| 19 | 2 | 8 | Add "progress" after "least" |
| 19 | 2 | - | Delete last sentence of the para |
| 30 | Table | Col. 6-7 heading | Delete "the index of" |
| 34 | 2 | 9 | Add "were" after "tubewells" |
| 34 | 3 | 8 | For "project" read "priority" |
| 37 | 1 | 3 | For "19.04" read "16.3" |
| 41 | 4 | 2 | For "are read "is" |
| 43 | Second table Col. 9 heading |  | Add "Achievement" between "Total" and "1956-59" |
| 43 | Second table Col. 10 heading |  | Add "Achieved" after "Target" |
| 44 | First table Col. 9 heading |  | Add "Achievement" between "Total" and "1956-59" |
| 44 | First table Col. 10 heading |  | Add "Achieved" after "Target" |
| 45 | 2 | 1 | Add "(number of extension centres)" after "scheme" |
| 45 | Second table Col. 8 heading |  | Add "Achievement" between "Total" and "1956-59" |
| 45 | Third Table Col. 10 heading |  | Add "Achieved" after "Target" |
| 50 | 2 | 11 | For "and the" read "and that the" |

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| Page | Para/Table | Line/Col. | Nature of change |
|---|---|---|---|
| 55 | Table | Col.3 | For "39,000" read "59,000" |
| 73 | Second table | Col.6 heading | For "1958-59" read "1957-58" |
| 75 | Table | Col.9 heading | For "1959" read "1958" |
| 75 | Table | Col.10 heading | For "1958" read "1959" |
| 81 | 2(from bottom) | 3(from bottom) | For "machining" read "manufacutring" |
| 83 | 4 | 4 | Delete "high" before "foreign exchange" |
| 83 | 6 | 2 | Delete "types". |
| 84 | 3 | 3 | Add "important" before "exception" |
| 85 | 1 | - | The first sentence should read: "Installed capacity for steel castings showed commendable progress, it being 38,600 tons in 1958 as against 18,820 tons in 1957, production of steel castings was 28,072 tons in 1958 as against 23,343 tons in 1957". |
| 85 | 3 | 3 | Add "existing" after "both the" |
| 86 | 2 | 7 | For "by" read "to" |
| 87 | 5 | 3 | For "[illegible].3" read "206.2" |

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|---|---|---|---|
| 89 | 4 | 6 | Add "experienced" after difficulties" |
| 103 | 2 | 4 | For "impeding the rapid progress of their formulation" read "impeding their rapid formulation" |
| 127 | Second Table | Col6, last line | Read "18.6" |
| 127 | -do- | Col.7 last line | Read "53.8" |
| 139 | 1 | - | Delete last sentence. |
| 142 | Table | Col.2, item 1(a) | For "Lakhs" read "lakh pupils" |
| 176 | Table | heading | For "Physical Targets" read "Physical Achievements" |
| 177 | -do- | -do- | For "Physical Targets" read Physical Achievements" |
| 179 | 3 | 4 | For "considered" read "provided" |
| 185 | 2 | 10 | For "Boards Commission" read "Board/Commission" |
| 194 | 6 | 7 | For "came to be" read "was" |
| 198 | 4 | 8 | For "actuality" read "actual" |

Note:- For revised figures of targets and achievements during the first and second plans see "Third Five Year Plan - A Draft Outline (Planning Commission, June 1960)".

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# *CHAPTER I*

# ECONOMIC TRENDS AND ACHIEVEMENTS

## INTRODUCTION

Initial administrative problems, reorganisation of States, rise in development costs, rapid depletion of foreign exchange reserves, large budgetary deficits, sharp fall in agricultural output in 1957-58, marked rise in foodgrains prices and the generally inflationary tendency induced by increased developmental expenditure both in the public and private sectors had caused serious stresses and strains in the economy during the initial years of the second plan. With a view to combining development with stability, agricultural programmes were stepped up, fiscal and monetary disciplines were enforced and an appraisal of the internal and external resources of the second plan was undertaken to re-define priorities. The salutary effect of these measures and other favourable factors was felt in the third year of the plan.

During 1958-59 the Indian economy *tended* to overcome some of the difficulties experienced in the preceding year and to resume its upward course of development. National income which had declined in 1957-58 (for the first time since the advent of planning in 1950-51), moved beyond the peak reached in 1956-57, agricultural production was at a record level, industrial capacity and output had expanded, infra structure of the economy was further strengthened, budgetary deficit was smaller, rapid depletion of the foreign exchange reserves of the country was arrested, rise in prices was, to some extent, checked and employment opportunities had increased.

During the first half of the year inflationary pressures had gathered further momentum. There was also a slowing down of the rate of new investment and of industrial production. The drain on foreign exchange reserves continued though at a diminishing rate. The turning point in the economic outlook was reached only by about the middle of the year with boom harvests in prospect, the tempo of industrial activity picking up, substantial increase in external financial assistance and net accretions to the foreign exchange reserves. Production had risen, prices tended to come down and increased financial resources became available for implementing the plan.

Economic policies of the preceding years were continued and in some respects reinforced. An assessment of internal and external resources of the second plan was undertaken early in the year (May 1958) to ensure the most effective utilisation of available resources. Foreign exchange utilisation was as a result brought under vigorous control. Increased effort was made to raise more resources domestically through additional taxation, loans and small savings. Banking policy continued to aim at preventing speculative hoarding of stocks while promoting expansion of investment. Trade regulations were tightened in respect of imports and relaxed in the case of exports. Anti-inflationary measures were also strengthened. Nevertheless, by the end of the year the problem of accelerating the pace of development through increased development expenditure without accentuating inflationary pressures remained to be solved.

## NATIONAL INCOME

On the basis of preliminary estimates of the national income of India for 1958-59 (at 1948-49 prices) is estimated at Rs. 11,570 crores and the *per capita* income at Rs. 290·7. The 1958-59 national income was the highest on record being as much as 5·2 per cent above the previous highest in 1956-57 and about 6·8 per cent higher that the national income for the previous year (1957-58). Likewise, the *per capita* income is 2·5 per cent larger than the previous highest (in 1956-57) and 5·5 per cent higher than in the preceding year (1957-58). Over the first three years of the second plan the national income had increased by 10·4 per cent in real terms as against the 25 per cent envisaged in the second plan over the five year period. The net rise in the *per capita* income in real terms during this period was 6·3 per cent.

*National Income of India,* 1950-51 *to* 1958-59 *(at* 1948-49 *prices)*

| | 1950-51 | 1951-52 | 1952-53 | 1953-54 | 1954-55 | 1955-56 | 1956-57 | 1957-58 | 1958-59 |
|---|---|---|---|---|---|---|---|---|---|
| Net output (in Rs. 100 crores) | 88·5 | 91·0 | 94·6 | 100·3 | 102·8 | 104·8 | 110·0 | 108·3 | 115·7 |
| *Per capita* output (Rs.) | 246·3 | 250·1 | 256·6 | 268·7 | 271·9 | 273·6 | 283·5 | 275·6 | 290·7 |

## AGRICULTURAL PRODUCTION

During 1958-59 agricultural production was at a record level. The index number of agricultural production in India increased from 114:6 in 1957-58 to 131·0—a rise of about 14 per cent over 1957-58 and about 6 per cent over the previous highest registered during 1956-57. The output of both foodgrains and non-foodgrains had increased. The increase over the preceding year in respect of foodgrains was relatively larger being as much as 19 per cent as against 7 per cent in the case of non-foodgrains. The production of most crops had increased, though in varying degrees.

*Agricultural Production,* 1955-56 *to* 1958-59

| | 1955-56 | 1956-57 | 1957-58 | 1958-59 |
|---|---|---|---|---|
| 1. Index of Agri. Prod. (1949-50=100) . . . . . | 116·9 | 123·6 | 114·6 | 131·0 |
| 2. Index of Foodgrains Prod. (1949-50=100) . . . . . | 115·3 | 120·5 | 108·0 | 128·2 |
| 3. Index of Non-foodgrains Prod. (1949-50=100) . . . . . | 120·1 | 130·0 | 127·8 | 136·6 |
| 4. Production of foodgrains (Million Tons) . | 65·8 | 68·8 | 62·5 | 73·5 |

The production of foodgrains in 1958-59 was 73·5 million tons as against the revised targer of 80·4 million tons. Import of foodgrains during 1958-59 was 3·4 million tons as compared to 3·6 million tons in 1957-58. There was also a depletion of stocks with government which fell from 1·12 million tons in January 1958 to 0·78 million tons in January 1959. There was, thus, an increase in the total availability of foodgrains. *Per capita* availability had also increased. The satisfactory harvest of 1958-59 had some impact on prices. The prices of cereals and pulses which had been rising during the year had declined by the year-end but continued to be higher than in the preceding year.

Various development programmes for augmenting agricultural production, such as extension of irrigation facilities and their fuller utilisation, increased use of fertilisers and manures and popularization of improved seeds and scientific agricultural practices were intensified during the year under review. The development of minor irrigation works, which yield quicker results and at comparatively low cost, received special emphasis along with the need for more effective utilisation of irrigation potential already created through the construction of irrigation channels, intensification of repairs of old tanks and proper maintenance of the existing works. The initial difficulties in the establishment of seed farms having been overcome, with the relaxation of rules for the grant of central assistance and increased assistance for the purchase of land for the farms, the programme gathered momentum. The demand for chemical fertilisers was rapidly growing but the supply was inadequate to meet it. The response of cultivators to new types of chemical fertilisers such as urea, ammonium sulphate, nitrate and calcium ammonium nitrate was encouraging. Efforts were continued to propagate the development and utilisation of local manurial resources.

An intensive *rabi* production campaign was successfully launched in a number of States. Efforts were directed towards the timely supply of seeds, fertilisers, improved agricultural implements, insecticides, pesticides, treatment of seeds against diseases, provision of irrigation facilities and credit.

### INDUSTRIAL DEVELOPMENT

There was further expansion of industrial output and capacity during 1958. The tempo of production had, however, somewhat slowed down. The index number of industrial production in India (1951 100) advanced from 137·3 in 1957 to 139·7 in 1958, recording an increase of 1·7 per cent as against 3·5 percent and 8·3 per cent respectively during 1956 and 1957. The limited availability of foreign exchange for obtaining essential raw materials, components and machinery, was principally responsible for slowing down the rate of expansion. In the three years of the second plan the increase in industrial output was to the extent of 15 per cent—an average rate of increase of 5 per cent per annum.

The decline in the production of cotton textile, and sugar was a material factor in affecting the index of industrial output because of their weightage. It is also noteworthy that some of the new engineering and chemical industries, which recorded notable increase in production, are not included in the index as currently computed.

As in the preceding years the engineering and chemical group of industries recorded more appreciable progress than most other industries. The output of a large number of engineering industries, for instance, outstripped the installed capacity and in many cases production rose by more than 50 per cent over the previous year. In a number of industries the rise in production was due to increase in capacity as a result of the completion of the expansion schemes of existing units and coming into production of new units. On the other hand, production in some engineering industries had declined due to inadequate availability of raw materials or components or fall in demand. In the metallurgical group of industries the output of most industries recorded a significant rise and in some instances exceeded installed capacity. With the commencement of production by the new steel plants in the public sector the position regarding the availability of steel—a major raw material of industry—is expected to be somewhat easier.

Increase in production also occurred in a large number of chemical and allied industries. In several cases installed capacity had also been exceeded and production had more than doubled compared with the preceding year. However, production of some items had declined due to fluctuation in demand, lack of raw materials or labour difficulties.

A significant development during the year was the completion of arrangements for the setting up of a heavy machine building plant at Ranchi, a coal mining machinery plant at Durgapur, a foundry-forge shop also at Ranchi and a heavy electrical plant at Bhopal. Other important developments were in the field of drugs, anti-biotics and fertilisers to augment existing capacity.

As in the preceding year, several new industrial goods were manufactured in India for the first time. There was also evidence of increased production in village and small industries, particularly handloom cloth.

## EMPLOYMENT

According to the second plan, the additional employment of 7·9 million outside agriculture and about 1·6 million in agriculture had been visualized during the plan period. This was based on the assumption that the outlay in the public sector would be of the order of Rs. 4,800 crores. In view of the rise in cost of projects since the formulation of the plan, it has been felt that an outlay of Rs. 4,800 crores would provide additional employment opportunities for only 7 million jobs outside agriculture. If the plan outlay were to be reduced to Rs. 4,500 crores, then the additional jobs created would be about 6·5 million. It has been estimated that during the first three years of the second plan about 3 million additional job opportunities outside agriculture had been created.

## MONETARY TRENDS

Money supply with the public, which was of the order of Rs. 2,389 crores at the end of March 1958, increased by Rs. 109 crores in 1958-59 as compared to the corresponding increase of Rs. 76 crores in 1957-58 and Rs. 129 crores in 1956-57. The following abstract shows the component-wise break up of these increases in money supply:—

(Rs. crores)

| Component of the money supply | Variations during | | |
|---|---|---|---|
| | 1956-57 | 1957-58 | 1958-59 |
| 1. Currency with the public . . . . . . | +51·41 | +50·10 | +117·15 |
| 2. Demand liabilities of banks . . . . . | +77·52 | +17·62 | —7·49 |
| 3. Other deposits with the Reserve Bank of India (Excluding balance held on IMF Account No. I) . | —0·36 | +8·22 | —0·62 |
| Net Variations . . . | +128·57 | +75·94 | +109·04 |

It will be seen that in 1958-59, currency with the public rose by Rs. 117 crores which alone more than accounted for the rise in money supply during the year.

As in the previous two years, budgetary deficit in the public sector was the major expansionist factor, but its effect was partly counteracted by a further substantial rise in time deposits of banks and the continued balance of payments deficit, though the incidence of each of these factors was smaller in 1958-59 than in 1957-58. The expansionist influence of credit expansion by banks to the private sector was about the same in 1958-59 as in the previous year. The table below showing the major trends in money supply over the three years under review brings out the factors responsible for variations in money supply:—

(Rs. crores)

| Factor responsible for variations in money supply | Variations during | | |
|---|---|---|---|
| | 1956-57 | 1957-58 | 1958-59 |
| 1 | 2 | 3 | 4 |
| I. Increase (+) in Government Indebtedness to the banking system . . . . . . . | +309·0 | +490·9 | +333·6 |
| II. Increase (+) in private indebtedness to banks . | +89·4 | —171·2 | —131·1 |
| (i) Increase (+) in bank credit . . . . | +152·0 | +66·3 | +64·3 |
| (ii) Decrease (+) in time liabilities of banks . | —62·6 | —237·5 | —195·4 |
| III. Increase (+) in Foreign Exchange Assets held by Reserve Bank of India* . . . . . | —274·1 | —294·3 | —53·9 |
| IV. Expansionary (+) impact of changes in other assets and liabilities of the banking system . . . . | +4·3 | +50·5 | —39 |
| Recorded Net increase (+) in money supply . . | +128·6 | +75·9 | +109·0 |

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*Figures shown against this item are net of borrowings from and repayments to the I.M.F.

## PRICES

The price situation continued to cause anxiety in 1958-59. The upward trend in prices, resumed in February 1958, gathered further momentum during the first half of 1958-59. The general index number of wholesale prices (1952 – 53 = 100) which had declined to 104·7 in February 1958, after having reached 112.0 in August 1957, resumed its upward trend reaching a peak of 116·9 in mid-September 1958. Thereafter, it tended to decline, falling to 111.7 by the end of March 1959. The average weekly index of wholesale prices for 1958-59 was about 4 per cent higher than in the previous year. The rise in the price level occurred in all commodity groups but was most marked in the case of food articles, the index of which rose by about 8 per cent. The index for rice at 105 was the same as in the previous year but that for wheat had risen from 88 in 1957-58 to 105 in 1958-59. There was also a rise in the indices for sugar and gur (15 per cent) and other food articles including spices (15 per cent). The rise in the first half of the year was due to the poor harvest in 1957-58. The decline in the second half of 1958-59 was made possible by the prospects of good crops in 1958-59. This pattern corresponded to the seasonal behaviour of prices but the amplitude of rise was greater and that of decline less in 1958-59 than in 1957-58.

Anti-inflationary measures relating to agricultural commodities, chiefly food articles (foodgrains), in operation in the preceding year, were further strengthened during 1958-59. A substantial volume of foodgrains was again imported under previous arrangements. Imports totalled 32 lakh tons in 1958 as compared to 36 lakh tons in 1957. Additional arrangements for imports were made during 1958-59. Two agreements (in June 1958 and September 1958) were entered into with the United States under PL 480 for the import of an aggregate of about 33·8 lakh tons of wheat, 3 lakh tons of sorghum and two lakh tons of corn. Under a barter agreement with the U.S.A. (March 1959), 4·5 lakh tons of surplus U.S. grains were to be exchanged for Indian manganese, ferromanganese and some other items. Two deferred payment agreements were concluded with Canada (in February 1958 and October 1958) for the aggregate purchase of 5·4 lakh tons of wheat valued at 33.8 million Canadian dollars.

Internal procurement of rice by the Central Government hitherto confined to the States of Andhra Pradesh, Punjab and Orissa was extended to Madhya Pradesh in 1958. Several States procured rice and paddy on their own account. The Government of India also fixed maximum price for paddy and rice in most States to check rise in prices and to facilitate procurement. About 5·7 lakh tons—about twice as much as in the preceding year—were procured by the Central and State Governments during 1957-58. Larger quantities of foodgrains for distribution through fair price shops were released during 1958. Over 6,000 fair price shops were added during the year 1958 making a total of 45,000 retail shops, which distributed 3·67 million tons of foodgrains.

In addition to the southern rice zone, created in 1957 with a view to promoting regional self-sufficiency and avoiding cross-movements of rice, a new rice zone consisting of the State of Punjab and the Union Territories of Himachal Pradesh and Delhi was created in September 1958. Three wheat zones established in June 1957 were re-constituted into five zones (State of Punjab including Union Territories of Himachal Pradesh and Delhi, Uttar Pradesh, Madhya Pradesh, Rajasthan and Bombay).

Sub Section 3 (a) of Section 3 of the Essential Commodities Act 1955, under which any person holding foodgrains in stock can be directed to sell the same at prices equivalent to the average market prices prevailing in the preceding three months, was applied from time to time in respect of different commodities in various States as the need arose. All States had promulgated orders in 1958 licensing wholesale dealers and requiring returns of sales and stocks to be submitted by them. The ban on the purchase of indigenous wheat by roller flour mills in operation in certain cities and States was extended to mills all over the country. In November 1958, Imported Foodgrains (Prohibition of Unauthorised Sale) Order was promulgated forbidding the sale or storage of any quantity of imported foodgrains except by authorised dealers in order to prevent sale of imported grains at high prices.

In July 1958, the Government of India banned forward contracts as well as non-transferable specific delivery contracts for the sale or purchase of certain coarse grains and pulses. It was extended to rice and paddy in March 1959. To check the pronounced rise in price of sugar following the decision of the Government of India to release 50,000 tons of sugar for export, maximum ex-factory price of sugar was fixed. As this had resulted in the speculative rise in the price of gur, forward contract for the sale or purchase of gur was brought under the purview of the Forward Contract (Regulation) Act 1952 and it was decided to establish regulated futures markets at Hapur, Meerut, Agra, Muzaffarnagar and Delhi. Action was also taken in the form of stricter margin regulations on net outstanding purchases by the Forward Markets Commission to restrict the rise in the price of oil-seeds especially ground-nuts following the announcement of an export quota.

The Reserve Bank continued to exercise restraint on credit to trade in agricultural commodities through the operation of selective credit controls which were further tightened during 1958-59. In August 1958 banks were directed to exercise caution in the matter of advances against stocks; in November 1958 a special return was called to appraise the factual position. The banks generally conformed to the selective credit directives of the Reserve Bank.

Control on advances against sugar was tightened in July 1958, raising minimum margin requirements for advance from 35 per cent to 45 per cent. These restrictions were also extended in respect of stocks which had been lifted from factory premises and on which excise duty had been paid.

In view of the rising trend of wheat prices the Reserve Bank imposed further restrictions in September 1958 on bank advances against wheat. No changes were made in regard to paddy, rice and other foodgrains. Following the directive, advances against wheat declined sharply to Rs. 20 lakhs by end-December, 1958 as compared to Rs. 1·4 crores a year ago. A fresh directive in December 1958 effected changes in the method of prescribing the ceilings on advances of individual banks. Care was taken that restrictive measures did not hamper expansion of branch banking and the increasing use of warehousing facilities.

In February 1959 advances against groundnuts were also subjected to control, in order to correct a contra-seasonal and speculative spurt in groundnut prices. In March 1959 every scheduled bank was required to maintain the monthly average aggregate level of credit at not more than the corresponding 1957 and 1958 level.

During the year under review, one State (*viz.* Orissa) introduced State trading in rice and paddy at the wholesale level. Under the Orissa Foodgrains Control Order, which came into force on January 1, 1959, the State took powers to procure all surplus stocks of rice and paddy through authorised millers and non-millers who were bound, through agreements, to pay the minimum rates to producers and to sell stocks to Government at prescribed rates. In the rest of the States, the question of evolving a scheme of State trading to suit local conditions was being considered by the State Governments.

In November 1958 the Government of India announced their decision to introduce State trading in foodgrains, and a provisional scheme for giving effect to this decision was announced in April 1959.

### BALANCE OF PAYMENTS

The rapid decline of the country's foreign assets witnessed during the preceding two years was arrested in 1958-59 as a result of the stringent measures adopted to cut down imports on the one hand, and a substantial inflow of external assistance negotiated during the year on the other. During the first half of 1958-59 reserves continued to decline though moderately but in the second half of the year it tended to increase for the first time in the second plan period. Over the year as a whole the reserves were lower by Rs. 42 crores as compared to Rs. 221 crores and Rs. 260 crores respectively in 1956-57 and 1957-58. By March 1959 foreign assets held by the Reserve Bank stood at Rs. 213 crores as against Rs. 267 crores on April 1, 1958, Rs. 527 crores on April 1, 1957 and Rs. 746 crores on April 1, 1956.

*Balance of payments*, 1955-56 *to* 1958-59

(Rs. crores)

| Item | 1955-56 | 1956-57 | 1957-58 | 1958-59 |
|---|---|---|---|---|
| 1. Exports | 641·1 | 635·2 | 594·7* | 576·1 |
| 2. Imports | 750·6 | 1099·5 | 1204·2 | 1046·5 |
| (*a*) Private | .. | 811·9 | 695·1 | 518·6 |
| (*b*) Government | .. | 287·6 | 509·1 | 527·9 |
| 3. Trade Balance (1-2) | —109·5 | —464·3 | —609·5 | —470·4 |
| 4. Invisibles (a) (excluding official donations) | 84·4 | 112·5 | 100·9 | 90·7 |
| 5. Current account (excluding official donations) | —25·1 | —351·8 | —508·6 | —379·7 |

*Excludes repatriation to the U.S.A. of lend-lease silver valued at Rs. 74·4 crores.

(a) Includes receipts of Rs. 15·5 crores on account of PL 480 in the 3½ years from April 1956 to September 1959.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| 6. Capital transactions (excluding official loans, P.L. 480 and 665 assistance, and drawings on I.M.F.) | —3·1 | —42·2 | —16·3 | +27·8 |
| 7. Errors and Omissions | —5·3 | +1·6 | —4·1 | —23·7 |
| 8. Overall Deficit | —33·5 | —392·4 | —529·0 | —375·6 |
| *Financed by:* | | | | |
| 9. Official donations (b) | 42·0 | 39·5 | 32·7 | 40·9 |
| 10. Official Loans (c) | 6·5 | 30·7 | 92·3 | 216·7 |
| 11. Increase in P.L. 480 and 665 balances | .. | 40·2 | 109·6 | 75·7 |
| 12. Drawings on I.M.F. | .. | 60·7 | 34·5 | .. |
| 13. Draft on foreign exchange reserves (d) | —15·0 | —221·3 | —259·9 | —42·3 |
| Total (9 to 13) | .. | 392·4 | 529·0 | 375·6 |

(*b*) Includes Grants of Rs. 26·3 crores from P.L. 480 balances in the 3½ years from April 1956 to September 1959.

(*c*) Includes Rs. 5 crores of loan from PL 480 balances in 1958-59.

(*d*) Variations in reserves include not only movements in the foreign assets of the R.B.I. but also in other assets such as banks' balances abroad.

The fall in imports during 1958-59 was due wholly to the further reduction in imports on private account brought about by the restrictive import policy in effect since mid-1957. The import cut was principally on consumer goods (*e.g.* vehicles, cutlery, hardware, dyes, drugs and medicines), intermediate goods (*e.g.* iron and steel) and capital goods. A relatively liberal policy was adopted in respect of imports of raw materials to enable essential industries to work to full capacity and for the maintenance of the economy. Imports on Government account had increased in respect of capital equipment in 1958-59.

### *Imports by Main Categories*, 1955-56 *to* 1958-59

s. crores)

| Category | 1955-56 | 1956-57 | 1957-58 | 1958-59 (Preliminary) |
|---|---|---|---|---|
| A. *Consumers Goods* | *133·3* | *231·0* | *266·2* | *215·3* |
| of which Food | 28·9 | 107·6 | 162·0 | 152·0 |
| Other Consumer Goods | 104·4 | 123·4 | 104·2 | 63·3 |
| B. *Raw materials and Produce* | *172·5* | *186·6* | *145·6* | *135·5* |
| of which Mineral Oils | 64·8 | 90·9 | 78·9 | 71·1 |
| C. *Intermediate Goods* | *163·8* | *255·2* | *228·4* | *163·6* |
| of which Iron and Steel : | | | | |
| Private | 58·4 | 118·2 | 82·7 | 41·6 |
| Government | 12·1 | 151 | 49·3 | 37·9 |
| D. *Capital Goods* | *224·0* | *328·4* | *378·5* | *371·8* |
| Private | 153·4 | 213·8 | 206·0 | 141·5 |
| Government | 70·6 | 114·6 | 172·5 | 230·3 |
| E. *Others* | *520* | *98·3* | *185·5* | *160·8* |
| TOTAL | *745·6** | *1099·5* | *1204·2* | *1046·8* |

*Revised total is Rs. 761·4 crores.

Although steps were taken to stimulate exports, export earnings declined further during 1958-59. Export earnings from tea and raw cotton had increased but declined in the case of jute and cotton manufactures, manganese ore and vegetable oils. Inadequate European and U.S. demand, competition from other producing countries in the case of cotton textiles and foreign exchange difficulties experienced by some South East Asian countries were the principal factors responsible for the reduction in export earnings.

*Export by Main Categories,* 1955-56 *to* 1958-59

(Rs. crores)

| Category | 1955-56 | 1956-57 | 1957-58 | 1958-59 (Preliminary) |
|---|---|---|---|---|
| I. *Food, drink and Tobacco* . . . | *181·7* | *213·6* | *195·3* | *206·1* |
| Tea . . . . . . . | 110·6 | 149·3 | 119·4 | 137·9 |
| II. *Raw Materials and Produce and Articles wholly unmanufactured* . . . . | *227·4* | *190·0* | *176·0* | *159·6* |
| 1. Cotton raw and waste . . . . | 45·6 | 23·7 | 15·9 | 23·2 |
| 2. Vegetable Oils . . . . | 40·1 | 25·5 | 14·9 | 9·6 |
| 3. Hides & Skins, raw and tanned . | 23·0 | 30·4 | 30·5 | 29·2 |
| 4. Metallic ores . . . . | 29·7 | 19·8 | 16·1 | 14·5 |
| 5. Manganese ore . . . . |  | 21·1 | 29·4 | 13·2 |
| III. *Articles wholly or mainly manufactured* . | *284·4* | *255·9* | *242·0* | *231·8* |
| 1. Jute Manufactures . . . | 120·3 | 126·5 | 118·2 | 105·9 |
| 2. Cotton Manufactures . . . | 86·4 | 80·3 | 76·2 | 62·5 |
| IV. *Others* . . . . . . . | *8·4* | *8·4* | *8·7* | *7·9* |
| TOTAL (c.i.f.) . . . | 671·9 | 667·9 | 622·0 | 605·4 |
| Less estimated freight and insurance etc. . | 30·8 | 31·1 | 27·3 | 29·3 |
| Exports (f.o.b.) . . . . . . | 641·1 | 636·8 | 594·7 | 576·1 |

To encourage exports, 250 commodities were freed from export controls, including certain categories of textiles, linseed oil, castor oil, sugar products, drugs and medicines, leather and its manufactures, electrical instruments and appliances and wireless instruments. Export duty on a number of commodities such as jute manufactures, manganese ore, cigars, cigarettes, vegetable oils, oil seeds and raw wool was abolished cotton textiles and yarn were given certain quotas for the import of raw materials were given to such exporting industries as manufactured engineering goods, pharmaceuticals, plastics, etc. Similarly, exporters of cotton textiles and yarn were given certain quotas for the import of raw cotton. Special facilities were given to the textile industry by way of liberal allocations for importing machinery to modernise their mills.

The position in respect of external assistance considerably improved during 1958-59 and by the end of March 1959, the total assistance available for the second plan amounted to Rs. 1158·58 crores. Assistance utilised during the first three years of the second plan was of the order of Rs. 462·65 crores, leaving a balance of Rs. 695·93 crores. Part of the external assistance received was made available for developments in the private sector.

## PLAN TARGETS AND ACHIEVEMENT*

In terms of the second plan targets, achievements by the end of the mid-plan year were on the whole satisfactory and the outlook for the remaining two years of the plan was encouraging. Annexure I shows principal targets of production and development. In the agriculture sector, the output of foodgrains was over 90 per cent of the plan target. This was also true of commercial crops such as jute, oilseeds and sugarcane. In the case of tea the target had been exceeded while in the case of cotton the achievement was about 70 per cent. Irrigation potential created was about 50 per cent of the plan target. In the industrial sector production in some industries had already exceeded the plan targets. Targets for electric energy generated was fulfilled to the extent of over 70 per cent. In the transport and communications sector, plan targets for national highways and surfaced roads were fulfilled to the extent of over 90 per cent. In the case of railway freight and passenger traffic the achievement was of the order of about 80 per cent. The achievement in respect of postal, telephone and telegraph facilities was over 85 per cent of the plan target. Shipping tonnage brought into commission was 70 per cent of the target. In the social services sector, the provision of educational facilities made satisfactory progress as most targets had been fulfilled to the extent of over 80 per cent and in some cases plan targets had, in fact, been exceeded. Health programmes relating to the provision of medical services and training were generally fulfilled by over 90 per cent. Success in the control of diseases was, however, less spectacular being over 70 per cent in the case of T.B. and about 50 per cent in the case of malaria. Family planning movement was beginning to take root.

The expectations by plan-end are that national income would reach 85 per cent of the plan target; foodgrains production would be about 5 to 10 per cent short of the revised target of 80.5 million tons; a large number of industries are expected to achieve or even exceed their targets of output and capacity; installed capacity for electric power would attain 90 per cent of the target; most targets in the transport and communications are expected to be achieved or even exceeded; targets in the educational field are likely to be generally achieved; and it is anticipated that targets for hospitals and medical personnel would be attained.

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* Analysis is based on the level of production and development, except in the case of irrigation and housing where additional development is reckoned.

## APPENDIX

*Principal Targets*

| Sl. No. | Item | Unit | Position in 1950-51 | First Plan | Second Plan (1956-61) | | | | Col. 9 as per cent of col. 6 |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Achievement 1955-56 | Target 1960-61 | Achievement | | | |
| | | | | | | 1956-57 | 1957-58 | 1958-59 | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| | *Agricultural Production* | | | | | | | | |
| 1 | Foodgrains . . . . . | M. tons | 54·0(a) | 65·8 | 80·5 | 68·8 | 62·5 | 73·5 | 91·3 |
| 2 | Cotton . . . . . | M. bales | 2·9 | 4·0 | 6·5 | 4·7 | 4·7 | 4·7 | 72·3 |
| 3 | Sugarcane-gur . . . . | M. tons | 5·6 | 6·0 | 7·8 | 6·8 | 6·9 | 7·2 | 92·3 |
| 4 | Oilseeds . . . . . | M. tons | 5·1 | 5·6 | 7·6 | 6·2 | 6·1 | 6·9 | 90·8 |
| 5 | Jute . . . . . . | M. bales | 3·3 | 4·2 | 5·5 | 4·3 | 4·1 | 5·2 | 94·5 |
| 6 | Tea . . . . . . | M. Lbs. | 607 | 637 | 700 | 668 | 716 | N.A. | .. |
| | *Community Development Programme* | | | | | | | | |
| 7 | Development blocks . . . | Nos. | .. | 951 | 3087 | 1814 | 2152 | 2405 | 77·9 |
| 8 | Villages covered . . . . | '000 Nos. | .. | 105·8 | 386·0 | 234·9 | 276·0 | 302·9 | 78·4 |
| 9 | Population served . . . . | Million persons | .. | 68·6 | 204·0 | 130·0 | 150·0 | 165·1 | 80·9 |
| | *Cooperation* | | | | | | | | |
| 10 | Number of small-sized primary agricultural societies . . . . | '000 Nos. | 115·5 | 159·9 | N.F. | 161·5 | 166·5 | 175·0 | .. |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 11 | Membership of village co-operatives | Million | 5·2 | 7·8 | 15·0 | 9·1 | 10·2 | 13·0 | 86·7 |
| | *Irrigation & Power* | | | | | | | | |
| 12 | Additional potential created . . | M. acres | .. | 5·3 | 10·2 | 6·2 | 7·2 | 9·0 | 88·2 |
| 13 | Electricity | | | | | | | | |
| | (i) Installed capacity . . . | M. KW | 2·3 | 3·4 | 6·9 | 3·6 | 4·0 | 4·3 | 62·3 |
| | (ii) Actually generated . . . | M. KW. hrs. | 6575 | 10800 | 22000 | 11870 | 13657 | 15414 | 70·1 |
| | *Minerals* | | | | | | | | |
| 14 | Iron ore . . . . . . | M. tons | 3·0 | 4·3 | 12·5 | 4·3 | 4·8 | 6·2 | 49·6 |
| 15 | Coal . . . . . . | M. tons | 32·3 | 38·2(d) | 60·0 | 39·4(d) | 43·5(d) | 45·3(b) | 75·5 |
| | *Transport and Communications* | | | | | | | | |
| 16 | Railways | | | | | | | | |
| | (i) Passengers originating . . | Million | .. | 1275 | NF | 1360 | 1410 | 1422 | .. |
| | (ii) Freight carried . . . | M. tons | 91·4 | 114·0 | 163·0 | 124·1 | 132·4 | 134·8 | 80·2 |
| 17 | Roads | | | | | | | | |
| | (i) National highways . . . | '000 miles | 12·3 | 12·9 | 13·8 | 13·1 | 13·2 | 13·4 | 97·1 |
| | (ii) Surfaced roads . . . | '000 miles | 97·5 | 122·0 | 144·9 | 127·4 | 133·6 | 137·1 | 94·6 |
| 18 | Shipping | | | | | | | | |
| | (i) Coastal & adjacent . . . | '000 GRT | 217 | 240(c) | 900(e) | 230 | 260 | 250(d) | 69·1 |
| | (ii) Overseas . . . . . | ,, | 174 | 240(c) | | 290 | 320 | 372(d) | |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|
| 19 | Ports and harbours | | | | | | | | |
| | Traffic handled** . . . . | M. tons | .. | 24·0 | 33·0 | 27·2 | 31·1 | 28·7 | 87·1 |
| 20 | Posts and Telegraphs | | | | | | | | |
| | (i) Post Offices (urban & rural) . | '000 No. | 36 | 55 | 75 | 59 | 62 | 65 | 86·6 |
| | (ii) Telegraph Offices . . . | „ | 3·6 | 5·1 | 6·5 | 5·5 | 5·7 | 6·0 | 92·3 |
| | (iii) No. of Telephones . . . | „ | 168 | 278 | 458 | 315 | 347 | 388 | 84·7 |
| | *Social Services* | | | | | | | | |
| 21 | Education | | | | | | | | |
| | (a) Schooling facilities for children in different age groups . . | | | | | | | | |
| | (i) 6—11 . . . . | (Pupils in lakhs) | 186·8 | 251·9 | 329·1 | 267·1 | 283·0 | 300·6 | 91·3 |
| | (ii) 11—14 . . . . | | 33·7 | 43·0 | 56·0 | 46·4 | 50·2 | 54·3 | 97·0 |
| | (iii) 14—17 . . . . | | 14·5 | 19·8 | 27·5 | 21·0 | 22·2 | 23·9 | 86·9 |
| | (b) Institutions | | | | | | | | |
| | (i) Primary/Jr basic . . . | '000 Nos. | 209·7 | 278·1 | 330·9 | 287·3 | 297·4 | 311·9 | 94·2 |
| | (ii) Middle /Sr. basic . . . | „ | 13·6 | 21·7 | 25·2 | 24·5 | 26·2 | 28·3 | 112·3 |
| | (iii) High/Higher Secondary . . | „ | 7·3 | 10·8 | 12·4 | 11·8 | 12·5 | 13·2 | 106·4 |
| | Universities . . . . | Nos. | 26 | 32 | 39 | 35 | 38 | 39 | 100·0 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| (d) Engineering and Technology | | | | | | | | |
| (i) Colleges | Nos. | 49 | 64 | 91 | 74 | 74 | 83 | 91·2 |
| Intake | Nos. | 4119 | 5937 | 13500 | 6632 | 9778 | 11086 | 82·1 |
| (ii) Polytechnics | Nos. | 86 | 102 | 193 | 111 | 129 | 157 | 81·3 |
| Intake | Nos. | 5903 | 9397 | 25000 | 10242 | 15995 | 19932 | 79·7 |
| 22 *Health* | | | | | | | | |
| (a) Medical Institutions (Hospitals) | '000 Nos. | 8·6 | 10·0 | 12·6 | 10·2 | 10·2 | NA | .. |
| (b) Hospital beds | " | 113·0 | 125·0 | 155·0 | 129·0 | 133·6 | 142·6 | 92·0 |
| (c) Doctors | " | 59 | 70 | 83 | 72 | 75 | 77(f) | 92·8 |
| (d) Nurses | " | 17·0 | 22·7 | 31·0 | 24·7 | 26.5 | 29·1 | 93·9 |
| (e) Family planning clinics | | | | | | | | |
| (i) Rural | Nos. | .. | 21 | 2021 | 32 | 331 | 799 | 30·2 |
| (ii) Urban | " | .. | 126 | 626 | 136 | 291 | | |
| 23 Housing | | | | | | | | |
| (a) Additional houses/tenements (industrial). | '000 Nos. | .. | 43·8 | 64·3 | 11·8 | 15·4 | 11·0 | 59·3(g) |
| (b) Additional low income group houses. | " | .. | 3·9 | 60·0 | 10·9 | 10·0 | 13·5 | 57·3(g) |

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*This table indicates level of production/development by the end of the specified period, except in the case of irrigation and housing.

(a) The production for 1949-50 has been taken as the base year as in 1950-51 yield was not normal.

(b) Figures relate to calendar years 1955, 1956, 1957 and 1958.

(c) This does not include certain tonnage which was ordered in the first plan but put into commission later.

(d) As on 31st December, 1958.

(e) Excludes 90,000 GRT for replacement of obsolete ships.

(f) Estimated.

(g) While working out there percentages, total achievements in the three years 1956-59 have been taken into account.

**relates to major ports only.

NA : Not available. NF : Not fixed.

## *CHAPTER II*

# PLAN OUTLAY AND ITS FINANCING

The Second Plan was intended to carry forward at an accelerated rate, the process of development initiated in the first plan period. To attain higher targets it became necessary to step up the volume of investment. The development expenditure proposed for the second plan in the public sector was therefore substantially larger. The total plan outlay was increased by more than two-fold from Rs. 2,356 crores in the first plan to Rs. 4,800 crores in the second plan.

### Plan Outlay and Allocation

The Second Plan, in continuing the developmental effort commenced in the First Plan, gave greater accent to industrialization, especially the development of heavy industry and the necessary ancillaries like transport. This shift in emphasis is reflected in the allocation of outlay under the main heads in the two plans.

***Distribution of plan outlay by major heads of development***

(Rs. crores)

| Heads | First Plan | | Second Plan | | | |
|---|---|---|---|---|---|---|
| | Expenditure | Per cent | Original provision | Per cent | Revised provision | Per cent |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1. Agriculture and Community Development . . . | 357 | 15·1 | 568 | 11·8 | 568 | 11·8 |
| 2. Irrigation and Power . . . | 661 | 28·1 | 913 | 19·0 | 860 | 17·9 |
| 3. Industry & Mining . . | 179 | 7·6 | 890 | 18·5 | 1080 | 22·6 |
| 4. Transport and Communications | 557 | 23·6 | 1385 | 28·9 | 1345 | 28·0 |
| 5. Social Services . . . | 533 | 22·6 | 945 | 19·7 | 863 | 18·0 |
| 6. Miscellaneous . . . | 69 | 3·0 | 99 | 2·1 | 84 | 1·7 |
| TOTAL . . . | 2356 | 100·0 | 4800 | 100·0 | 4800 | 100·0 |

### Objectives and Priorities in the Annual Plans

In determining the size of plan outlay for 1956-57 a number of factors were taken into account. The level of outlay was related to the actual outlay of the previous year and precedence was given to the completion of schemes already under way, as the second five year plan had not yet been finalized. The phasing of developmental activity had also to be planned in keeping with the resources available and, in the States in particular, phasing of expenditure had to correspond to the results of efforts to increase resources for development through taxes, loans and small savings. While expenditure on some projects, especially those already started, was governed by technical considerations and the need to bring them as early as possible to the stage when they started yielding results, the developmental programme as a whole could only envisage a gradual stepping up year by year. In the light of these considerations, it was proposed to fix the size of the development programme for 1956-57 at about one-sixth of the total plan, *i.e.*, at about Rs. 800 crores. This decision was taken before the finalisation of the Central and the State budgets for 1956-57 and was conveyed to Central Ministries and to State Governments. To the latter, it was suggested that the outlay on their plan to be provided in their budgets for 1956-57 might be limited to a level near the anticipated 'actual' for 1955-56 subject to such adjustments as might be necessary taking into account the following factors:—

(a) The need for an increase in expenditure on construction projects according to the stage reached; and

(b) the possibility of keeping outlays on new construction projects at a low pitch in the initial years so as to avoid excessive burden on financial resources in the very first year of the plan.

While formulating the annual plan for the year 1957-58, the following general scheme of priorities was kept in view:—

(a) Preference to be given to Schemes calculated to earn or save foreign exchange.

(b) Training programmes to be undertaken at the maximum rate administratively feasible.

(c) High priority to:

  (i) schemes for increasing or facilitating early increase in agricultural and industrial production.

  (ii) schemes for removing transport bottlenecks and for ensuring early expansion of transport facilities specially in areas where demand for transport was likely to be stepped up on account of implementation of certain major plan schemes such as the steel projects.

  (iii) schemes for utilising resources already created through the completion of plan schemes, *e.g.*, new irrigation potential, new installed capacity etc.

In addition to the above priorities which reflected the immediate requirements of the economy, an attempt was also made to dovetail programmes relating to industry, transport and power, which were viewed together in order to attain an integrated growth and development.

The above scheme of priorities was again stressed at the time of the preparation of the Annual Plan for the year 1958-59. In view of the further deterioration in the foreign exchange position it was specifically laid down that:

(a) No scheme involving foreign exchange on which a substantial start has not already been made should be taken up for implementation.

(b) The requirements of foreign exchange for schemes on which a substantial start has already been made should be reviewed with a view to reducing the foreign exchange commitments to the minimum and the minimum commitments on such schemes should not be concentrated in any one particular year but should be phased over a number of years, if possible.

The annual plan for 1958-59 was prepared in an atmosphere of austerity and it was enjoined that the utmost economy in the execution of all schemes should be exercised both in expenditure and in the use of scarce material resources and equipment. Preference was also given to programme with a high content of local public participation in the form of free labour and donations of other resources.

## APPRAISAL OF PLAN OUTLAY, MAY 1958

A review of financial resources undertaken in May, 1958 revealed that available resources were likely to be short in relation to the original plan outlay of Rs. 4,800 crores. The estimates then made indicated the level of total resources at around Rs. 4,260 crores over the five year period. It was also realised that increase in cost estimates already implied a reduction in physical targets. At the stage, the National Development Council agreed to retain the ceiling of outlay at Rs. 4,800 crores and at the same time directed that projects and programmes should be divided into two parts. The first part involving an outlay of Rs. 4,500 crores was to include projects and programmes directly related to the increase of agricultural production, 'core projects' and projects which had reached an advanced stage. In respect of these, commitments, could be entered into for the rest of the plan period, on the assumption that the resources needed would be found. The second part of the plan with an outlay of Rs. 300 crores comprised the rest of the projects but expenditure on them was to be undertaken only to the extent additional resources became available.

*Second Plan Outlay—Original and Revised*

(Rs. crores)

| Heads | Original | Revised | Revised Part I |
|---|---|---|---|
| 1. Agriculture and Community Development | 568 | 568 | 510 |
| 2. Irrigation and Power | 913 | 860 | 820 |
| 3. Village and Small Industries | 200 | 200 | 160 |
| 4. Industry and Mining | 690 | 880 | 790 |
| 5. Transport and Communications | 1385 | 1345 | 1340 |
| 6. Social Services | 945 | 863 | 810 |
| 7. Miscellaneous | 99 | 84 | 70 |
| TOTAL | 4800 | 4800 | 4500 |

## PROGRESS OF EXPENDITURE

Against the original plan allocation of Rs. 4,800 crores and an appraised provision of Rs. 4,500 crores, the outlay incurred during the first three years 1956–59 amounted to about Rs. 2519 crores. This was a little over 52 per cent of the original provision and over 55 per cent of the appraised. The abstract on the next page shows progress of expenditure by major heads of development.

It will be observed from this Table that in the sector of Industry and Mining a relatively higher rate of progress of expenditure was recorded. This was mainly due to the successful implementation of the Central Sector Projects (including the three Steel Projects) of the second five year plan. It is noteworthy that although the central plan for Industry and Mining initially registered a modest scale of expenditure in the year 1956-57 (the same being only 9 per cent of the second plan provision) the tempo of development was considerably stepped up in the subsequent two years, resulting in an aggregate 3 years' expenditure of the order of 72 per cent of the total provision originally envisaged under the Second Plan. The plan expenditure on Industries in the States' sector was however progressing at a very slow rate. During the first three years of the Second Plan, over 50 per cent. of the original plan outlay was incurred on Transport and Communications and Irrigation and Power. The sector of Agriculture and Community Development registered a lower rate of expenditure being 46 per cent. of the plan provision. Social services spending only 35 per cent of the plan outlay, recorded the least. On the whole, the Central Sector fared better than the States', the latter being adversely affected mainly by internal administrative and territorial changes brought about by the States' Reorganisation. The tempo of development expenditure was subsequently being gradually stabilised at a steadily rising trend.

## FINANCING OF PLAN OUTLAY

A summary statement of financial resources for the Centre and the States during the first three years of the Second Plan period is presented on page 21.

*Progress of Expenditure during the first three years of the second plan*

(Rs. crores)

| Head of Development | Second Plan Provision (original) | | | Progress of Expenditure | | | | | | | | | Total for the three years 1956-59 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 1956-57 | | | 1957-58 | | | 1958-59 | | | | | |
| | Centre | States | Total | Centre | States | Total | Centre | States | Total | Centre | States | Total | Centre | States | Total |
| I. Agriculture and Community Development . | 65 | 503 | 568 | 9·0<br>(14) | 60·0<br>(12) | 69·0<br>(12) | 7·8<br>(12) | 78·0<br>(16) | 85·8<br>(15) | 8·2<br>(13) | 101·0<br>(20) | 109·2<br>(19) | 25·0<br>(39) | 239·0<br>(48) | 264·0<br>(46) |
| II. Irrigation and Power . | 117 | 796 | 913 | 16·6<br>(14) | 145·9<br>(18) | 162·5<br>(18) | 14·8<br>(13) | 146·2<br>(18) | 161·0<br>(18) | 16·0<br>(14) | 148·7<br>(19) | 164·7<br>(18) | 47·4<br>(41) | 440·8<br>(55) | 488·2<br>(54) |
| III. Industry and Mining . | 747 | 143 | 890 | 67·1<br>(9) | 14·4<br>(10) | 81·5<br>(9) | 210·0<br>(28) | 17·3<br>(12) | 227·3<br>(26) | 260·9<br>(35) | 18·4<br>(13) | 279·3<br>(31) | 538·0<br>(72) | 50·1<br>(35) | 588·1<br>(66) |
| IV. Transport and Communications . . | 1203 | 182 | 1385 | 186·0<br>(15) | 31·5<br>(17) | 217·5<br>(16) | 253·3<br>(21) | 33·4<br>(18) | 286·7<br>(21) | 249·8<br>(21) | 34·1<br>(19) | 283·9<br>(20) | 689·1<br>(57) | 99·0<br>(54) | 778·1<br>(57) |
| V. Social Services . . | 396 | 549 | 945 | 35·0<br>(9) | 53·0<br>(10) | 88·0<br>(9) | 38·9<br>(10) | 67·8<br>(12) | 106·7<br>(11) | 54·5<br>(14) | 89·1<br>(16) | 143·6<br>(15) | 128·4<br>(33) | 209·9<br>(38) | 338·3<br>(35) |
| VI. Miscellaneous . . | 43 | 56 | 99 | 8·2<br>(19) | 6·7<br>(12) | 14·9<br>(15) | 7·8<br>(18) | 8·9<br>(16) | 16·7<br>(17) | 8·7<br>(20) | 12·0<br>(21) | 20·7<br>(21) | 24·7<br>(57) | 27·6<br>(49) | 52·3<br>(53) |
| TOTAL . . | 2571 | 2229 | 4800 | 321·9<br>(13) | 311·5<br>(14) | 633·4<br>(13) | 532·6<br>(21) | 351·6<br>(16) | 884·2<br>(18) | 598·1<br>(23) | 403·3<br>(18) | 1001·4<br>(21) | 1452·6<br>(57) | 1066·4<br>(48) | 2519·0<br>(52) |

*Note.*—Figures within brackets indicate percentages to the corresponding second plan provision.

*Plan outlay and its Financing in* 1956-57, 1957-58 *and* 1958-59

(Rs. crores)

| Item | 1956-57 | | | 1957-58 | | | 1958-59 | | | Total for three years 1956-59 | Plan Estimates 1956-61 (original) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Centre | States | Total | Centre | States | Total | Centre | States | Total | | |
| I. *Plan Outlay* : | 341·6 | 297·2 | 638·8 | 500·0 | 345·9 | 845·9 | 582·0 | 399·4 | 981·4 | 2466·1 | 4800 |
| II. *Domestic Resources* : | | | | | | | | | | | |
| (*a*) Balance from current revenues | 130·0 | 15·4 | 145·4 | 80·0 | 75·7 | 155·7 | 40·0 | 86·4 | 126·4 | 427·5 | 1200 |
| (*b*) Contribution of Railways | 34·1 | .. | 34·1 | 40·0 | .. | 40·0 | 52·0 | .. | 52·0 | 126·1 | 150 |
| (*c*) Loans from the public | 77·8 | 68·1 | 145·9 | 68·2 | 9·9 | 78·1 | 181·9 | 56·2 | 238·1 | 462.1 | 700 |
| (*d*) Small savings | 39·7 | 19·0 | 58·7 | 28·0 | 41·6 | 69·6 | 28·0 | 54·6 | 82·6 | 210·9 | 500 |
| (*e*) Unfunded debt and Miscellaneous capital receipts | —2·5 | —19·7 | —22·2 | —79·0 | —8·3 | —87·3 | 18·0 | —8·6 | 9·4 | —100·1 | 250 |
| TOTAL (*a*) TO (*e*) | 279·1 | 82·8 | 361·9 | 137·2 | 118·9 | 256·1 | 319·9 | 188·6 | 508·5 | 1126·5 | 2800 |
| III. External Assistance | 37·8 | .. | 37·8 | 95·0 | .. | 95·0 | 325·0 | .. | 325·0 | 457·8 | 800 |
| IV. Total resources including external assistance | 316·9 | 82·8 | 399·7 | 232·2 | 118·9 | 351.1 | 644·9 | 188·6 | 833·5 | 1584·3 | 3600 |
| V. Central Assistance to States | —157·1 | 157·1 | .. | —189·4 | 189·4 | .. | —221·3 | 221·3 | .. | .. | .. |
| VI. Resources after adjusting for central assistance to States | 159·8 | 239·9 | 399·7 | 42·8 | 308·3 | 351·1 | 423·6 | 409·9 | 833·5 | 1584·3 | 3600 |
| VII. Budgetary deficit | 181·8 | 57·3 | 239·1 | 457·2 | 37·6 | 494·8 | 158·4 | —10·5 | 147·9 | 881·8 | 1200 |

*Note.*—This statement is based on the data contained in the Planning Commission's earlier document entitled: "Plan Resources and Outlay—A Review ". Although 1960-61 budgets incorporating the actuals for the year 1958-59 have recently become available, it has not been found possible to take them into account in this document.

In 1956-57, the yield from budgetary resources was larger than anticipated due to the substantially larger balance from current revenues. Contribution of Railways and the volume of loans from the public and small savings were only slightly lower than the budget estimates. The magnitude of actual external assistance and budgetary deficits were on the other hand significantly lower than the budget estimates.

The position of resources in 1957-58 was, however, different from that of 1956-57. Domestic budgetary resources fell short of expectations. Though there was a significant increase in the balance from current revenues in 1957-58, contribution from Railways and the volume of loans from the public and small savings turned out to be much below expectations. External assistance was again substantially lower than the budget estimates and the volume of budgetary deficit larger.

Despite the considerable tax effort made during the two years, resources available for the plan from domestic budgetary sources did not come up to requirements. It is noteworthy that 1957-58, the year in which the biggest tax effort was made, was also the year of the heaviest budgetary deficit.

In 1958-59, the balance from current revenues declined considerably. Loans from the public and collections through the small savings were, however, considerably stepped up, which resulted in an almost doubling of domestic resources over the previous year. This, coupled with a substantial inflow of external assistance, resulted in a lower budgetary deficit in 1958-59 than in the preceding years despite the fact that the development expenditure in 1958-59 was 16 per cent higher than in the preceding year.

Since the beginning of the second plan, the objective of taxation policy has been to reorientate the tax structure to the needs of development planning. In 1956-57, a number of tax changes were introduced at the Centre along the lines suggested by the Taxation Enquiry Commission. These were estimated to yield Rs. 35 crores a year. Further measures of taxation were announced in September and November 1956 (*e.g.*, an additional excise duty on cotton cloth, capital gains tax etc.) expected to yield Rs. 18.5 crores in 1956-57 and Rs. 43 crores for the full year. The total yield from tax measures of 1956-57 was estimated at Rs. 55 crores for the year and Rs. 81 crores for the full year thereafter. The Central Budget for 1957-58 aimed at a further widening and deepening of the tax base. The yield from additional taxation imposed was estimated at Rs. 93 crores for the year and at about Rs. 107 crores in a full year. With the subsequent concessions granted, and considering that the yield of the wealth tax and of the railway passenger fares tax turned out to be smaller than forecast initially, the additional tax receipts for the year were about Rs. 73 crores and might be placed at Rs. 85 crores for a full year. Revenue receipts of the Centre for the year 1958-59 were smaller than envisaged at the time of framing of the Central Budget due mainly to a large drop in the customs revenue.

In the States, the additional taxation measures in 1956-57 yielded Rs. 11·6 crores. In 1957-58, the additional taxation was of the order of Rs. 30·6 crores—Rs. 14 crores from measures adopted in 1956-57 and the balance of Rs. 16·6 crores as a result of measures adopted in 1957-58. In 1958-59, yields from additional measures of taxation amounted to

Rs. 50·6 crores, of which only Rs. 9·8 crores accrued from fresh measures, the rest of Rs. 40·8 crores being the receipt from measures introduced in the previous two years.

In the States, the General Sales Tax and Tax on motor vehicles and on passengers and goods contributed the bulk of receipts from additional measures of taxations over the three years 1956—59, their contribution respectively being 58 and 16 per cent of the total. Receipts from Agricultural income tax, tax on motor spirit and diesel oil, land revenue and irrigation rates and Electricity duties ranged between 3 to 5 per cent of the total yield during 1956-59. Contribution from Betterment levy was negligible, it being only Rs. 0·3 crores out of a total of Rs. 92·8 crores collected by the States from the various sources during the three years 1956—59.

A number of States failed to adopt additional measures of taxation. At the end of the three years 1956—59, the States of Bihar, Madhya Pradesh, Orissa, Punjab and Uttar Pradesh were generally lagging behind and were not expected to achieve the five year targets set earlier. It may, however, be noted that Uttar Pradesh although lagging behind the targets, contributed in absolute terms the highest revenue from additional measures of taxation. The yield in most States that did levy additional taxation was generally small. The performance of the Centre compared more favourably with plan targets than the contribution of the States. It is also noteworthy that over the three years 1956—59, the Central Assistance to States was of the order of Rs. 568 crores. This was over 54 per cent. of the total plan outlay of the States during the same period.

The yield from public loans at the Centre and the States amounted to about Rs. 78 crores and Rs. 68 crores respectively in 1956-57, Rs. 68 crores and Rs. 10 crores, in 1957-58, and Rs. 182 crores and Rs. 56 crores in 1958-59, making an aggregate total of Rs. 462 crores. Borrowings on this scale strained the market considerably and the securities of a number of State Governments were quoted at a sizable discount. The Reserve Bank had to give a good deal of support to the capital market and some of the State Governments had to repurchase their own securities.

Net receipts from small savings amounted to Rs. 59 crores in 1956-57, Rs. 70 crores in 1957-58 and Rs. 83 crores in 1958-59. The collections in 1956-57 were actually about Rs. 7 crores less than in the previous year and thus a downward trend was then evident. This was perhaps largely due to the general stringency in the money market. A number of steps were taken in 1957-58 to further intensify the small savings drive. The rate of interest on small savings was also increased. It was, however, only in the latter part of 1957-58 that the small savings collections showed an improvement over the level for the corresponding period of the previous year. This improvement was steadily maintained in the subsequent year also.

The contribution from unfunded debt and miscellaneous receipts on capital account represents the net effect of receipts and disbursements under a number of items. The actuals for 1956-57 showed a net outflow of Rs. 22 crores which was enhanced to a net outflow of Rs. 87 crores in 1957-58. In the case of the Centre the net outflow is explained mainly by the expenditure incurred on State trading, compensation payments to displaced persons and other non-plan items. In the case of States, the net outflow in 1956-57 was partly due to expenditure of a development nature taken up outside the plan. The tendency of outflow was however arrested for the Centre in 1958-59 when a net inflow of Rs. 18 crores was registered.

The contribution of railways towards the financing of their development programme in the first three years of the second plan, estimated at about Rs. 126·4 crores, compared favourably with the plan target of Rs. 150 crores. This improvement is accounted for mainly by the surcharge of 6¼ per cent which was levied on all freight traffic with the exception of foodgrains and certain other items.

### External Assistance

The following abstract summarises the position in respect of authorisation and utilisation of external assistance, during the three years 1956–59:–

(Rs. crores)

| | Unutilised balance from the first plan | Fresh authorization from 1-4-56 to 31-3-59 | Total available for the first three years of the second plan | Extent of utilisation from 1-4-56 to 31-3-59 | Balance as at the end of the year 1958-59 |
|---|---|---|---|---|---|
| **Grants** . . . | 72·37 | 125·53 | 197·90 | 97·42 | 100·48 |
| **Loans** . . . | 123·96 | 836·72 | 960·68 | 365·23 | 595·45 |
| TOTAL . | 196·33 | 962·25 | 1158·58 | 462·65 | 695·93 |

Further details sourcewise are shown in the Appendix to this Chapter.

During the period under report, two further agreements were executed by the Government of India with the Government of U.S.A. under the latter's Public Law 480 for the supply of U.S. surplus agricultural commodities against payment of rupees. The total value of commodities already received and paid for upto the end of June, 1959 is approximately $556 million or Rs. 265 crores, of which an amount of Rs. 185·40 crores as loans and Rs. 43·57 crores as grants are to be made available to the Government of India for mutually agreed projects in the five year plans. Projects benefiting by this assistance under various agreements executed upto August 1959 included 13 Irrigation and Power Projects, 3 Industrial Finance Corporations and also the Malaria Eradication Programme.

Under the Development Loan Fund established by the U.S. Government in 1957, India obtained substantial amounts of loans—all repayable in rupees—and two allocations of such loans, in the year 1958-59 alone represented about 25 per cent of the total funds appropriated for D.L.F. during the fiscal years 1958 and 1959. A credit of $150 million from the Export-Import Bank of Washington was also negotiated with the U.S. Government early in 1958 and the loan agreement with the Exim bank was signed on the 12th June, 1958. This credit is available for procurement in the United States, of capital equipment, machinery and related services needed for such programmes as irrigation and reclamation, power development, transport and communications in the public sector and mining and certain selected industries like aluminium, textiles, chemical engineering, automobile, coal mining and machine tools in the private sector.

Assistance received from the U.S.S.R. is mainly in the form of long term credits for the Bhilai Steel plant and other development projects under the five year plans. The total amount of credits for which agreements have been signed upto September, 1959 is 2709 million roubles (approximately Rs. 322·53 crores).

The Government of U.S.S.R. have also provided gifts of machinery and equipment, free services of Russian experts and training of Indians for the mechanised farm at Suratgarh and the Indian Institute of Technology at Bombay. The aid provided in the form of machinery and equipment is valued at Rs. 1·22 crores.

Under an agreement concluded on the 9th November, 1957 the Soviet Government have agreed to give a credit of 500 million roubles (about Rs. 59·53 crores) for the establishment of (i) a Heavy Machine Building Plant, (ii) an Optical and Opthalmic Glass Factory, (iii) a Thermal Power Station in Neyveli, (iv) a Coal Mining Machinery Plant and (v) other coal mining development enterprises.

Under the Technical Co-operation scheme of the Colombo Plan, the United Kingdom has so far agreed to provide £350,000 (approximately Rs. 47 lakhs) for the supply of equipment and books for research and training in various fields.

A contract for the establishment of an integrated steel plant at Durgapur with a capacity of one million tons of ingot steel was entered into with a consortium of British Steel Manufacturers and allied interests in October, 1956. The U.K. Government has agreed to grant a loan of £15 million (Rs. 20 crores) towards the cost of the steel plant. In addition, the Indian Steel Works Construction Company, London, which has been entrusted with the erection and construction of the plant, has offered to arrange with a syndicate of British Bankers, credit for £ 11·5 million (Rs. 15·33 crores).

A number of agreements were entered into with the Government of West Germany in 1958 providing for assistance to various development projects in India. Loans have been primarily given for financing the Rourkela Steel Project. Some credit is also available for facilitating other imports for development purposes. The Government of West Germany have also agreed to provide grants of machinery and equipment valued at Rs. 2·09 crores for the Prototype Production-cum-Training Centre at Okhla and for the Indian Institute of Technology at Madras.

The balance from IBRD loans at the end of the first plan period was about Rs. 3 crores and Rs. 21 crores respectively for the private and the public sectors. Fresh authorisations to the extent of Rs. 65·38 crores for the private sector and Rs. 118·38 crores for the public sector, were made during the period April, 1956 to March, 1959. During this period, loans of about Rs. 93 crores were utilised in the public sector and about Rs. 70 crores in the private sector.

The first loan agreement between Japan and India was signed during 1957-58. The Yen Credit authorised upto the end of 1958-59 amounts to Rs. 27·61 crores, of which only Rs. 25 lakhs had been drawn during the period under review.

About Rs. 2·72 crores of the Ford Foundation Grants were utilised during the period under review, leaving an unutilised balance of Rs. 4·69 crores.

## APPENDIX

*Authorisation and Utilisation of External Assistance during the first three years of the second plan*

(Rs. lakhs)

| Source | Balance of unutilised aid as at the end of 31-3-1956 | | Aid authorised from 1-4-1956 to 31-3-1959 | | Total available for utilisation during the second plan | | Estimated utilisation between 1-4-1956 to 31-3-1959 | | Balance available as at the end of 31-3-1959 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Loan | Grant | Loan | Grant | Loan | Grant | Loan | Grant | Loan | Grant |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| I. U. S. A. | | | | | | | | | | |
| (*a*) T.C.A. Programme . . | 3,699 | 4,875 | 2,263 | 3,594 | 5,962 | 8,469 | 4,063 | 5,848 | 1,899 | 2,621 |
| (*b*) P. L. 480 . . . | .. | .. | 18,540 | 4,357 | 18,540 | 4,357 | 500 | .. | 18,040 | 4,357 |
| (*c*) Development Loan Fund . | .. | .. | 8,333 | .. | 8,333 | .. | 687 | .. | 7,646 | .. |
| (*d*) President's Asian Economic Development Fund . | .. | .. | 952 | .. | 952 | .. | .. | .. | 952 | .. |
| (*e*) U. S. Bank credit for A.I.I. | .. | .. | 533 | .. | 533 | .. | .. | .. | 533 | .. |
| (*f*) Exim Bank . . . | .. | .. | 7,143 | .. | 7,143 | .. | 115 | .. | 7,028 | .. |
| II. U.S.S.R. | | | | | | | | | | |
| (*a*) Bhilai Steel Plant . . | 6,307 | .. | .. | .. | 6,307 | .. | 5,202 | .. | 1,105 | .. |
| (*b*) Industrial Projects . . | .. | .. | 5,950 | .. | 5,950 | .. | 11 | .. | 5,939 | .. |
| (*c*) Grants for Machinery . | .. | .. | .. | 122 | .. | 122 | .. | 76 | .. | 46 |
| III. UNITED KINGDOM | | | | | | | | | | |
| (*a*) Under Colombo Plan . | .. | 36 | .. | 8 | .. | 44 | .. | 31 | .. | 13 |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|
| (*b*) ECGD Credit for Durgapur Steel | .. | .. | 2,000 | .. | 2,000 | .. | 2,000 | .. | .. | .. |
| (*c*) Lazard Credit for Durgapur Steel | .. | .. | 1,533 | .. | 1,533 | .. | 933 | .. | 600 | .. |
| (*d*) II-ECGD Credit for capital goods | .. | .. | 3,800 | .. | 3,800 | .. | 507 | .. | 3,293 | .. |
| IV. CANADA | .. | 1,264 | 1,571 | 3,572 | 1,571 | 4,836 | 1,571 | 3,561 | .. | 2,275 |
| V. AUSTRALIA | .. | 588 | .. | 34 | .. | 622 | .. | 615 | .. | 7 |
| VI. NEW ZEALAND | .. | 139 | .. | 151 | .. | 290 | .. | 239 | .. | 51 |
| VII. WEST GERMANY | | | | | | | | | | |
| (*a*) Rourkela | .. | .. | 7,483 | .. | 7,483 | .. | 4,214 | .. | 3,269 | .. |
| (*b*) Other Credits | .. | .. | 1,904 | .. | 1,904 | .. | 449 | .. | 1,455 | .. |
| (*c*) Okhla & I.I.T., Madras | .. | .. | .. | 209 | .. | 209 | .. | .. | .. | 209 |
| VIII. JAPAN | .. | .. | 2,761 | .. | 2,761 | .. | 25 | .. | 2,736 | .. |
| IX. NORWAY | .. | .. | .. | 100 | .. | 100 | .. | 100 | .. | .. |
| X. RUMANIA | .. | .. | 530 | .. | 530 | .. | .. | .. | 530 | .. |
| XI. I.B.R.D. | | | | | | | | | | |
| Public | 300 | .. | 11,838 | .. | 12,138 | .. | 9,268 | .. | 2,870 | .. |
| Private | 2,090 | .. | 6,538 | .. | 8,628 | .. | 6,978 | .. | 1,650 | .. |
| XII. FORD FOUNDATION | .. | 335 | .. | 406 | .. | 741 | .. | 272 | .. | 469 |
| TOTAL | 12,396 | 7,237 | 83,672 | 12,553 | 96,068 | 19,790 | 36,523 | 9,742 | 59,545 | 10,048 |

This statement excludes :—

(*i*) Assistance received in form of suppliers credit *e.g.*, from Japan, France and Rumania.
(*ii*) Rockefeller Foundation.
(*iii*) Gift shipments from private voluntary agencies in U.S.A.
(*iv*) Assistance under title II and III of P.L. 480.

*Source* : "External Assistance – 1959", publication of the Department of Economic Affairs, Ministry of Finance.

## CHAPTER III

# AGRICULTURAL PROGRAMMES

### AGRICULTURAL PRODUCTION TARGETS

When the draft of the Second Five Year Plan was considered by the National Development Council in May, 1956, it was felt that if a Plan of the magnitude proposed, which also aimed at rapid industrial development, was to be carried out without risk of inflation, it would be essential to work out higher agricultural targets than those suggested. It was agreed that with a view to fixing the higher targets and ensuring their realisation, the Planning Commission and the Ministry of Food & Agriculture should undertake further study of agricultural programmes in each State with particular reference to crop patterns, land and water resources, and national extension services.

In June, 1956, State Governments were requested by the Planning Commission to review their targets of agricultural production. It was pointed out that with the proper utilisation of the financial resources made available under the plan for Agriculture, Community Development and Irrigation, it should be possible to achieve results exceeding the earlier estimates. A number of suggestions were made to intensify the agricultural production programme. These included giving the highest priority to agricultural production in national extension and community projects, the introduction of improved agricultural practices in irrigated areas, adequate maintenance of minor irrigation, and reducing the time lag between the availability and utilisation of benefits from major and medium irrigation schemes. Later in the month, a Conference of State Ministers of Agriculture was convened at Mussoorie to study the problem further. The conference recommended higher targets of agricultural production and gave a broad indication of the additional financial resources which might be needed.

After the conference, detailed discussions took place with individual States during September and October, 1956. Proposals of each State were first reviewed by the Planning Commission and the State Ministers of Agriculture. This was followed by detailed examination jointly by experts of the State Governments, Ministry of Agriculture, Community Development and the Planning Commission. Results of these deliberations were further considered at a meeting of the Planning Commission with the State Ministers of Agriculture.

The revised targets of additional agricultural production are given in the table below. The foodgrains target was based on a series of discussions with individual States that followed the Mussoorie Conference. The targets for oil seeds, sugar-cane, jute and some other crops were agreed to with the States at Mussoorie Conference. The target for cotton was proposed by the Indian Central Cotton Committee in consultation with State representatives in the light of the requirements of the textile industry. On the basis of the revised targets agricultural production was expected to increase by about 28 per cent during the second plan period, the increase in the production of foodgrains being of the order of 24 per cent.

*Revised Targets of Agricultural Production*

| Commodity | Unit | Estimated Production 1955-56 (as given in the Plan) | Tentative targets of production as in the draft Plan | Revised targets of production | Percentage increase in the index of production | |
|---|---|---|---|---|---|---|
| | | | | | As in the draft Plan | As revised |
| Foodgrains | Million Tons | 65·8 | 75·0 | 80·5 | 15 | 23·8 |
| Oilseeds | „ | 5·5 | 7·0 | 7·6 | 27 | 36·2 |
| Sugarcane (Gur) | „ | 5·8 | 7·1 | 7·8 | 22 | 34·5 |
| Cotton | Million bales | 4·2 | 5·5 | 6·5 | 31 | 54·8 |
| Jute | „ | 4·0 | 5·0 | 5·5 | 25 | 37·5 |
| Other Crops | Million Tons | .. | .. | .. | 9 | 22·4 |

In re-examining the agricultural production targets for the second plan, the State Governments, in common with the Ministry of Agriculture and the Planning Commission, accepted the view that the maximum effort possible should be made by all concerned within the financial resources allotted for agriculture under the Plan. Funds proposed for agriculture in the block budgets of national extension and community project areas were not to be diverted to other heads of development. It was, however, recognised that at later stages in the Plan it might be necessary in some instances to make small additions to the allotments available for agriculture through internal adjustments and in other ways.

It was further agreed to speed up such programmes as the establishment of seed farms, arrangements for the fuller utilisation of local manurial resources and in some States the programme of minor irrigation. The importance of integrating the programme of multiplication of improved seeds, utilisation of local manurial resources, use of fertilisers, irrigation, soil conservations etc. was also stressed particularly in areas served by the National Extension and Community Projects and in areas with secure irrigation facilities and adequate rainfall so that more rapid increase in agricultural production may be achieved.

Local resources and enthusiasm for increasing agricultural production and raising living standards were to be mobilised through the agency of National Extension Service. The importance of enlisting local participation and community effort on the largest scale possible in such programmes as minor irrigation and contour bunding was stressed. It was urged that in each village there should be a village panchayat and a multi-purpose co-operative society which should see that every family has an integrated plan for the use of improved seeds, fertilisers and organic and green manures and was provided with short-term credit in money or kind for carrying through its plans.

## Agricultural Production in 1958-59

Agricultural production was at a record level during the year 1958-59, particularly in respect of foodgrains, sugarcane and jute. The production of foodgrains was 73·5 million tons, which was 17% more than the production during the year 1957-58 and about 8% higher than the previous highest production recorded during 1956-57. Against a plan target of 15·5 million tons of additional foodgrains production, a net addition of 7·7 million tons of foodgrains had been achieved. Production of commercial crops had also increased; output in the case of oilseeds, gur and jute was at a record level.

The magnitudes of production of the various food and commercial crops for 1958-59 and the preceding three years, are given in the following table:

*Agricultural Production*

| Crop | Unit | Plan target | 1955-56 | 1956-57 | 1957-58 | 1958-59 |
|---|---|---|---|---|---|---|
| *Foodgrains* | | | | | | |
| Rice . . | Million tons | | 27·12 | 28·28 | 24·88 | 29·72 |
| Wheat . . | " | | 8·62 | 9·31 | 7·74 | 9.69 |
| Barley . . | " | | 2·77 | 2·83 | 2.24 | 2·64 |
| Jowar . . | " | | 6·62 | 7·25 | 8·25 | 8·69 |
| Bajra . . | " | | 3·37 | 2·89 | 3·52 | 3·79 |
| Millets . . | " | | 6·42 | 6·69 | 6·37 | 6·76 |
| TOTAL—Cereals . | " | | 54·92 | 57·25 | 53·00 | 61·29 |
| Pulses . . | " | | 10·87 | 11·50 | 9·51 | 12·21 |
| TOTAL—Foodgrains | " | 80·5 | 65·79 | 68·75 | 62·51 | 73·50 |
| *Oilseeds* | | | | | | |
| Groundnut . | " | | 3·80 | 4.20 | 4·44 | 4·82 |
| Castor . . | " | | 0·12 | 0·12 | 0.09 | 0·11 |
| Sesamum . | " | | 0·46 | 0·44 | 0·35 | 0·49 |
| Rape and Mustard . . | " | | 0·85 | 1·03 | 0·92 | 1·07 |
| Linseed . . | " | | 0·41 | 0·38 | 0·25 | 0·43 |
| TOTAL—Oilseeds | " | 7·6 | 5·64 | 6·17 | 6·05 | 6·92 |
| Sugarcane (gur) | " | 7·8 | 6·0 | 6·8 | 6·9 | 7·2 |
| Jute . . | Million bales | 5·5 | 4·20 | 4·29 | 4·05 | 5·18 |
| Cotton . . | " | 6·5 | 4·00 | 4·73 | 4·74 | 4·71 |

## PROGRESS OF EXPENDITURE

The progress of expenditure on the various agricultural programmes during 1958-59 and the preceding two years is given in the table below:—

*Actual Outlay—Programme for Agriculture*

(Rs. crores)

| Item | Plan Provision 1956-61 | Actuals | | | Total 1956-59 | [(6) as % of (2)] |
|---|---|---|---|---|---|---|
| | | 1956-57 | 1957-58 | 1958-59 | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Agricultural Production . . . | 90 | 6·3 | 11·2 | 15·3 | 32·8 | 36·4 |
| Minor Irrigation . | 92 | 15·6 | 15·1 | 19·1 | 49·8 | 54·1 |
| Land Development | 19 | 3·4 | 3·8 | 5·8 | 13·0 | 68·4 |
| TOTAL . . | 201 | 25·3 | 30·1 | 40·2 | 95·6 | 47·6 |

## AGRICULTURAL PRODUCTION PROGRAMMES

### Foodgrains Production Potential

An attempt has been made to measure the extent to which agricultural production programmes were carried out in terms of productive capacity. Progress made under different categories of agricultural programmes during 1956—1959 along with the Plan targets is shown below:

*Foodgrains production capacity*—1956—59

(Lakh tons)

| Programme | Plan Target | 1956-57 | 1957-58 | 1958-59 |
|---|---|---|---|---|
| 1. Major Irrigation . . . | 30·2 | 1·97 | 3·23 | 4·62 |
| 2. Minor Irrigation . . . | 18·9 | 2·84 | 4·17 | 4·25 |
| 3. Fertilisers and Manures . : | 37·7 | 3·36 | 3·41 | 4·07 |
| 4. Improved seeds . . . . | 34·0 | 1·96 | 2·90 | 2·39 |
| 5. Land Development . . . | 9·4 | 1·00 | 1·35 | 1·58 |
| 6. Improved Agricultural Practices . | 24·7 | 2·79 | 3·70 | 8·06 |
| TOTAL . . . . . | 154·9 | 13·92 | 18·76 | 25·47 |

**Major Irrigation**

The progress of major irrigation work has been reviewed separately in the Chapter on Irrigation and Power.

**Minor Irrigation**

The progress of the minor irrigation programmes both under the Agriculture and C.D. & N. E. S. programmes for the period 1956-59 is given in the table below:

*Minor Irrigation Programme*

| | Plan Targets 1956-61 | 1956-57 | | 1957-58 | | 1958-59 | |
|---|---|---|---|---|---|---|---|
| | | Target | Achievement | Target | Achievement | Target | Achievement |
| **Area Irrigated (Lakh acres)** | | | | | | | |
| (*i*) Under Agriculture Plan . . . | 45·0 | 24·5 | 12·2 | 22·0 | 16·0 | 22·0 | 22·0 |
| (*ii*) Under C.D. & N.E.S. Plan . . . | 45·0 | N.A. | 2·9 | 6·0 | 4·5 | N.A. | N.A. |

The progress of expenditure (in Rs. crores) on the above programmes is as follows:—

| | Under Agricultural Plan | Under C.D. & N.E.S. Plan |
|---|---|---|
| Plan outlay . . . . . . . . | 66·0* | 55·0 |
| 1956-57 . . . . . . . . | 15·8 | 4·8 |
| 1957-58 . . . . . . . . | 15·6 | 6·0 |
| 1958-59 . . . . . . . . | 19·4 | N.A. |

To focus attention of the State Governments on the acceleration, effective utilisation and proper maintenance of minor irrigation works, three Minor Irrigation Conferences on regional basis were convened by the Ministry of Food & Agriculture at Hyderabad, Calcutta, and New Delhi. The Conferences recommended that the programme drawn up for a particular year should be sanctioned well in advance of the construction season; adequate powers should be delegated to the executive staff to avoid procedural delays; timely action should be taken to procure necessary equipment, machinery and the accessories; disparity between the patterns of central assistance under the Community Development and the Grow More Food programmes should be removed; land should be acquired under emergency provision of the Land Acquisition Act wherever land is not readily available; terms and conditions regarding issue and recovery of loans and grants to cultivators should be liberalised and systematic investigation and surveys should be undertaken for planning of comprehensive programmes of irrigation development.

Following these Conferences, Rs. 3·4 crores were sanctioned for minor irrigation works in addition to Rs. 18·4 crores allotted at the time of the Annual Plan discussions for 1958-59.

As a result of the efforts made to secure fuller utilisation, the gap between the availability and utilisation of irrigation facilities created was considerably narrowed. Increased emphasis is being given to both the development of new means of irrigation and to the careful maintenance of all categories of irrigation so that all productive means are fully harnessed. It is estimated that the plan target of 9 million acres (additional) through minor irrigation works will be achieved.

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*Revised to Rs. 92 crores as a result of appraisal in May, 1958.

### Tubewells

The second plan envisages the construction of 3,581 tubewells at a cost of about Rs. 20 crores. The programme was subsequently revised to 2,969 tubewells at a cost of Rs. 17.64 crores. Since there was a substantial spill-over from the first plan, very little progress could be made with fresh programmes of tubewell construction. Of the first plan programme of 5,015 tubewells undertaken as a part of T.C.M. tubewells programme, G.M.F. programme and State tubewells programme, 4,859 tubewells were completed with pump sets and 3,524 tubewells were energised upto June, 1959. Of the second plan programme 634 tubewells completed with pumping sets and 582 energised.

*Groundwater Exploratory Projects.*—The programme of exploratory tubewells was revised from 410 to 287 tubewells of the first priority and the 22 tubewells of the second priority. By June, 1959 the work was completed in the States of Bombay, Madhya Pradesh, Rajasthan, Kerala, Madras, Andhra Pradesh, Bihar, Punjab and Orissa, where 94 bores were found productive. In the other three States, namely, Uttar Pradesh, West Bengal and Assam, the work was closed in August 1959 and 53 bores were found productive; 24 sites were transferred to the second project.

### Land Reclamation and Development

During 1958-59 against the target of 32,000 acres of Kans clearance, 1,610 acres of jungle clearance and 4,590 acres of land development, the C.T.O. reclaimed 22,318 acres of Kans land and 1,528 acres of jungle land and carried out levelling and terracing operations over an area of 3,318 acres bringing the progressive total of the area reclaimed by it to 16·67 lakh acres.

Most of the tractors owned by the C.T.O. had completed their life span. It was not possible to replace them due to foreign exchange shortage. The future of the organisation was under the consideration of a Committee of Secretaries.

The two schemes, namely, Training of Tractor Operators and Tractor Testing Stations were amalgamated. The latter would also be located at Budni (M.P.) where the Tractor Training Centre had been functioning since July, 1956. Eighty students completed their training by January 1959 bringing the total number of persons trained to 261.

The financial allocations and actual expenditure incurred during the first three years of the second plan are as follow:—

(Rs. crores)

| Year | Allocation | Actual Expenditure |
|---|---|---|
| 1956-57 . . . . . | 5·18 | 2·18 |
| 1957-58 . . . . . | 2·82 | 2·45 |
| 1958-59 . . . . . | 2·71 | 2·79 (Revised) |

**Seed Farms**

During the first three years of the second plan, 2,651 farms (including 89 farms abandoned later) were set up against the sanctioned number of 3,488. The year-wise break up is as under:

*Establishment of Seed Farms*

(Nos.)

| | Plan 1956—61 | 1956-57 | 1957-58 | 1958-59 |
|---|---|---|---|---|
| Target . . . . . . | 4,300 | 485 | 1,416 | 1,587 |
| Achievement . . . . . . | .. | 258* | 1,003† | 1,390 |

*Includes 8 seed farms abandoned later.

†Includes 81 seed farms abandoned later.

Progress was not satisfactory in the initial years due to the difficulties encountered by the States in the acquisition of land mainly on account of its high cost. In order to meet this situation the State Agriculture Ministers' Conference held in October, 1957 recommended that the ceiling on cost of land should be raised from Rs. 500/- to Rs. 1,500/- per acre. The State Governments were also advised to take land on lease where purchase of land was found difficult. Furthermore, diversion of funds from one non-recurring item to another was permitted. Assistance by way of short-term loans and subsidy was also given to States for the distribution of improved seeds. States deficit in seeds continued to receive assistance for the procurement of improved seeds. The programme gathered momentum in 1958-59.

The progress of expenditure on the scheme during the first three years of the second plan is as follows:—

| | (Rs. in crores) |
|---|---|
| 1956-57 . . . . . . . . . | 0·97 |
| 1957-58 . . . . . . . . . | 3·56 |
| 1958-59 . . . . . . . . . | 6·61 |

**Fertilisers and Manures**

During the first plan, there had been a marked increase in the use of nitrogenous fertilizers and superphosphates. During the first three years of the second plan, their consumption increased even further. The progress of consumption of nitrogenous fertilizers and superphosphates is given below:—

| | 1951-52 | 1955-56 | Second Plan Target | 1956-57 | 1957-58 | 1958-59 |
|---|---|---|---|---|---|---|
| All Nitrogenous Fertilizers (in terms of S. Ammonia) (Lakh tons) . | 2·70 | 5·20 | 18·50 | 6·41 | 7·92 | 8·82 |
| Superphosphates (including bonemeal). (Lakh tons) . | 0·43 | 0·78 | 7·20 | 0·98 | 1·79 | 2·35 |

The system of granting short term loans to the States for the purchase of nitrogenous fertilizers from the pool and other fertilizers from the open market and for their sale to the cultivators on credit basis was continued. The demand of fertilizers was appreciably above production and import capacity. The tight foreign exchange position has been a limiting factor against larger imports.

The Fertilizers (Control) Order, 1957 providing for quality and price control of fertilizer materials, was given effect to in the States of Andhra Pradesh, Bihar, Bombay, Kerala, Madras, Madhya Pradesh, Mysore, Punjab, Orissa, Rajasthan and West Bengal and the Union Territories of Delhi, Himachal Pradesh and Tripura.

*Town Compost*

The scheme of town composting has been in progress since 1954. The number of towns covered by the scheme and the quantity of town compost produced during 1956-57, 1957-58 and 1958-59 is given below:—

*Town Composting Scheme*

| | 1956-57 | 1957-58 | 1958-59 (Targets) |
|---|---|---|---|
| Number of towns covered . . . | 2,250 | 2,252 | 2,500 |
| Quantity produced (lakh tons) . . . | 21·8 | 22·6 | 26·7 |

*Rural Composting*

Schemes envisaging larger and better utilisation of local manurial resources, including village wastes, crop residues, cattle waste and cattle urine for the production of rural compost in C.D. & N.E.S. Block areas and night soil composting in bigger panchayat areas were drawn up. These schemes did not make much headway during the first two years of the second plan. The reasons for slow progress during the initial years were the lack or inadequacy of conservancy arrangements, the need for subsidy to compensate for losses and inability of many panchayats to repay loans in a period of five years. The States are now being given loans to the extent of Rs. 2,000 per panchayat where there are conservancy arrangements and Rs. 3,600 per panchayat where conservancy arrangements are absent. During 1958-59, 1,519 N.E.S. blocks at an expenditure of Rs. 33·91 lakhs and 792 panchayats at an expenditure of Rs. 15·84 lakhs were proposed to be covered. The number of blocks actually sanctioned by the State Governments was 1,127 and the number of panchayats which could be persuaded to take up this type of work was 515.

A quantity of about 22·2 lakh tons of compost manure was prepared from refuse materials during 1957-58, and a target of 26·4 lakh tons was fixed for 1958-59.

About 153 million gallons of manurial water per day were scientifically utilized during 1958-59 under the Sewage Utilization Scheme in important cities and towns of Andhra Pradesh, Bihar, Madras and Rajasthan; progress in Madras was relatively more marked.

*Green Manure*

By the end of the second plan period it is proposed to bring an area of 22 million acres under green manuring. It is estimated that 12 million acres were covered by 1958-59.

## Japanese Method of Paddy Cultivation

Against the Second Plan target of 80 lakh acres, the area under Japanese Method of Paddy Cultivation had increased to about 40 lakh acres by 1957-58, net addition being 19.04 lakh acres. It is estimated that 56 lakh acres were covered by this method of paddy cultivation by 1958-59.

The progress during 1956-57, 1957-58 and 1958-59 is given below:—

(Lakh acres)

| | Target | Achievements |
|---|---|---|
| Plan target . . . . . . . | 80·0 | .. |
| 1956-57 . . . . . . | 20·0 | 23·7 |
| 1957-58 . . . . . . | 35·0* | 40·0 |
| 1958-59 . . . . . . | 50·0 | 56·0 |

*Revised to 60·1 lakh acres in view of the promising response in a number of States.

It is estimated that as a result of the introduction of the Japanese Method, an average yield of 19·9 maunds of rice per acre was attained as against 13·3 maunds by the local method.

## Plant Protection

The Directorate of Plant Protection, Quarantine and Storage continued its activities during 1958-59 in the States and through its 14 Central Plant Protection Stations. Assistance was given to control a serious outbreak of gundhy bug pests of paddy crops in a number of States in Northern India and some pests of groundnut, jowar and cotton in Andhra Pradesh, Madras, Mysore and Orissa. Fifteen lakh maunds of wheat in Bihar were fumigated. Aerial pest control operations were undertaken over an area of about 19,500 acres. The country remained free from locusts swarms during the year under review.

The expenditure during the first three years of the second plan was Rs. 236.8 lakhs (Rs. 50.0 lakhs in 1956-57, Rs. 65.3 in 1957-58 and Rs. 121·5 lakhs during 1958-59) against a plan provision of Rs. 290·5 lakhs for the Central and State Governments. The total value of pesticides used increased from Rs. 1.37 crores in 1956-57 to Rs. 2.35 crores in 1957-58 and about Rs. 2·56 crores in 1958-59.

The yearwise performance of the control of pests and diseases programme in terms of acreage treated with pesticides, along with the value of the pesticides used, is indicated in the table below:—

| | 1956-57 | 1957-58 | 1958-59 |
|---|---|---|---|
| Acreage treated (Million acres) . . . | 6·10 | 8·72 | 10·00 |
| Value of pesticides used (Rs. crores) . . . | 1·37 | 2·35 | 2·56 |

The total crop area treated against pests and diseases as a result of direct Government efforts had progressively increased. The quantity of cereal seeds treated with chemicals against seed-borne diseases was about 6·5 lakh maunds in 1956-57 and 11·89 lakh maunds in 1957-58. The figures for 1958-59 are expected to be higher because of the widespread measures undertaken both by the Government and the farmers to protect crops against the ravages of pests and diseases.

### Rabi Crop Production Campaign

It had been felt that in view of the substantially higher yields reported during crop competitions it was possible to raise the average national production by organising crop production campaigns. The intensive Rabi Production Campaign launched in 1958 as an experimental measure in respect of wheat, barley, gram and jowar resulted in substantial increase in food production. An increase of 3.2 million tons of foodgrains was recorded as compared to the average production of the three preceding seasons ending 1957-58. The States which participated in the campaign were Andhra Pradesh, Bihar, Bombay, Madhya Pradesh, Mysore, Punjab, Rajasthan, Uttar Pradesh & Delhi.

The main feature of the campaign was the stress on non-official participation and creation of enthusiasm among the farmers. Government agencies provided technical guidance and arranged for the timely supplies of seeds and fertilisers, improved implements, treatment of seeds against seed borne diseases and provision of irrigation facilities and credit to the participating farmers. The production programme was formulated by the Village Campaign Committees in consultation with the extension agencies and were adjusted to local conditions. Teams of helpers were organised by the Village Campaign Committees to secure the participation of farmers and to guide them in selected fields of operation.

### Agricultural Research

Research activities in the field of agriculture were expanded and strengthened. Some of the important developments were: constitution of a Rice Committee by I.C.A.R. for planning, coordination and supervising research and development work in rice; organisation of modern agronomic experiments for determining the optimum manurial, irrigation and cultural requirements of various crops; success in increasing yields of potatoes, paddy and wheat as a result of experimental research and research on the development of improved varieties of different crops.

A newly started Horticulture Division in I.A.R.I. initiated an all India survey for locating superior fruit trees for future propagation. The Central Rice Research Institute continued its research activities in agronomy, mycology, entomology and chemistry for improvement of rice production. In the hybridisation programme a number of early varieties with high yielding qualities were isolated. The Institute distributed 1,865 maunds of improved varieties of paddy for multiplication in seed farms. A hand driven paddy planter and fertilizer distributor was designed at the Institute. As a result of the researches undertaken by the Central Potato Research Institute it was established that potato yield increased with increasing doses of nitrogen upto 200 lbs per acre. About 200 maunds of disease free nucleus foundation stocks of commercial varieties of potatoes were distributed to the various State Governments.

### Agricultural Education and Training

A post-graduate school of agricultural studies was started at the I.A.R.I. in October, 1958 and the Institute was accorded the status of a University; 100 students for M.Sc and 50 students to the Ph. D. classes were admitted in the post-graduate school. 17 persons were trained at the Indian Central Tobacco Committee's Research Institute, Rajahmundry and 239 under the Bidi Tobacco Research scheme at Anand, in improved methods of tobacco cultivation, handling and curing.

Against a plan target of 6,500 agricultural graduates, the number of admissions to degree courses rose from 1,254 in 1953-54 to about 3,000 in 1958-59 in the agricultural colleges. Financial assistance was given to U.P. for establishing an Agricultural University at Rudrapur with colleges of agriculture, agricultural engineering, veterinary science and home science. The university is likely to start functioning from July, 1960.

### Development of Commercial Crops

The plan provided Rs. 12.58 crores for the development of commercial crops. During 1958-59, an expenditure of Rs. 2·02 crores was incurred, bringing the progressive total for 1956-59 to Rs. 4·32 crores. The crop-wise progress is given in the following paragraphs.

#### *Cotton*

A target of 65 lakh bales of cotton was fixed for the second plan as against 39·98 lakh bales produced at the end of the first plan. The acreage and production of cotton, according to the official estimates, during 1956-57, 1957-58, and 1958-59 are given below:—

| Year | Acreage (m. acres) | Production (lakh bales) | |
|---|---|---|---|
| | | Target | Achievement |
| 1956-57 . . . . . . . | 19·9 | 55·5 | 47·3 |
| 1957-58 . . . . . . . | 20·0 | 54·1 | 47·4 |
| 1958-59 . . . . . . . | 19·8 | 57·3 | 47·1 |

Cotton extension schemes continued in the States of Andhra Pradesh, Bombay, Madhya Pradesh, Madras, Mysore, Orissa, Punjab, Rajasthan and U.P. The area under the improved varieties was estimated at 14 million acres during 1957-58. No precise estimate for 1958-59 is so far available.

The Sea-island Cotton Development Scheme, which aimed at making the country self-sufficient in its requirements of extra long stapple cotton, entered the second year of its operation. The target for 1958-59 was to cover an area of 5,000 acres in the States of Kerala and Mysore. Due, however, to inadequate availability of seed on account of the unfavourable season in 1957-58, an area of about 1,100 acres only could be covered. About 206 bales were produced and sold at a price ranging between Rs. 2,800—3,500 per candy (20 maunds).

#### *Jute*

Production of jute reached a new record level of 51·78 lakh bales during 1958-59 against the second plan target of 55 lakh bales. Area and production of jute in India for the first three years of the second plan are summarised below:—

| Year | Area (lakh acres) | Production (lakh bales) |
|---|---|---|
| 1956-57 | 19·08 | 42·20 |
| 1957-58 | 17·42 | 40·52 |
| 1958-59 | 18·27 | 51·78 |

Jute development schemes progressed satisfactorily in the States of West Bengal, Bihar, Assam, Orissa, U.P. and Tripura. A Chief Jute Development Officer was appointed to maintain liaison with the jute growing States for the intensification of development activities. In order to arrest the downward trend of raw jute prices the State Trading Corporation was authorised to make purchases of jute through co-operative societies, both for internal consumption and for export.

### *Mesta*

Like jute, the acreage and production of mesta rose to a new record level during 1958-59. The statistical position in the first three years of the second plan is summarised below:—

| Year | Area ('000 acres) | Production (lakh bales) |
|---|---|---|
| 1956-57 | 733 | 14·78 |
| 1957-58 | 764 | 12·91 |
| 1958-59 | 851 | 15·81 |

### *Sugarcane*

The area and yield of sugarcane during 1956-57, 1957-58 and 1958-59 were as under:—

| Year | Area (m. acres) | Yield (m. tons) |
|---|---|---|
| 1956-57 | 5·06 | 67·5 |
| 1957-58 | 5·08 | 68·7 |
| 1958-59 | 4·84 | 71·6 |

The scheme of intensive manuring of sugarcane, which was started in 1954, continued to show encouraging results. A quantity of 35·5 lakh maunds of fertilisers was used during 1958-59 as compared to 30·4 lakh maunds during 1957-58. Against a target of 25 lakh acres to be manured intensively with inorganic fertilisers during 1958-59, 10·1 lakh acres were covered, the quantity of fertilisers used being 20·9 lakh maunds.

The outlay on the programme was revised without, however, making any significant corresponding curtailment in the physical target. Reduction in the outlay had impeded the progress of the scheme. Another reasion for the slow increase in production was the unprecedented draught of long duration in most parts of U.P. and Bihar and heavy floods in the Punjab.

*Oilseeds*

A target of 7.50 million tons of production of five major oilseeds was fixed for the second plan—an increase of about 33·8 per cent over the 1955-56 output of 5·71 million tons. By 1958-59, the production of oilseeds had increased to 6·92 million tons. The acreage and production statistics for various types of oilseeds during 1956-57, 1957-58 and 1958-59 are given below:—

| Crop | Acreage (m. acres) | | | Production (m. tons) | | |
|---|---|---|---|---|---|---|
| | 1956-57 | 1957-58 | 1958-59 | 1956-57 | 1957-58 | 1958-59 |
| Groundnut . . | 13·4 | 14·88 | 14·48 | 4·20 | 4·44 | 4·82 |
| Castor . . | 1·4 | 1·18 | 1·19 | 0·12 | 0·19 | 0·11 |
| Sesamum . . | 5·4 | 5·17 | 5·33 | 0·44 | 0·35 | 0·49 |
| Rape and Mustard | 6·3 | 5·98 | 6·29 | 1·03 | 0·92 | 1·07 |
| Linseed . . | 4·2 | 3·13 | 3·71 | 0·38 | 0·25 | 0·43 |
| TOTAL . | 30·8 | 30·34 | 31·00 | 6·17 | 6·05 | 6·92 |

Oilseeds development schemes were taken up in the States of U.P., Madras, Bombay, Orissa and Andhra Pradesh. Madhya Pradesh was the only important oilseed producing State which did not implement any of the schemes. The slow progress was due to the fact that the 'oilseeds development schemes' jointly financed by the Central and State Governments concerned and the 'oilseed extension schemes' financed entirely by the Indian Central Oilseeds Committee were not in full operation.

*Other Commercial Crops*

The production in 1958-59 of other commercial crops, such as, arecanut, lac, pepper, cashewnut and tobacco are summarised in the following table:—

*Production of Minor Commercial Crops*

| Crop | Unit | 1956-57 | 1957-58 | 1958-59 |
|---|---|---|---|---|
| Arecanut . . . . . | Lakh maunds | 22·2 | 23·7 | 23·2 |
| Lac . . . . . . | ,, | 13·2 | 11·4 | 9·5 |
| Pepper . . . . . | '000 tons | 31·6 | 26·6 | 25·6 |
| Cashewnuts . . . . | ,, | 55·0 | 60·0 | 69·0 |
| Tobacco . . . . . | Lakh tons | 2·9 | 2·4 | 2·6 |

### Agricultural Marketing

For introducing quality control on a compulsory basis in respect of agricultural commodities for export and on a voluntary basis for domestic trade, 160 new grading stations were organised by the end of November, 1958. The quantity of ghee graded during the year 1958-59 was about 1,50,000 maunds. The total value of sann-hemp fibre, cigarette, tobacco leaves, wool, bristles, lemon grass oil and sandal-wood oil, which were compulsorily graded before export under Agmark, amounted to Rs. 29 crores during 1958. The information for 1958-59 is not yet available.

The 'Agricultural Produce Markets' Act for regulating markets was in force in Andhra Pradesh, Bombay, Kerala, Madras, Mysore, Madhya Pradesh, Punjab, Orissa and Delhi. The number of regulated markets in the country increased to 549 (150 for the first three years of the plan) by 1958-59 against the target of 1,000 regulated markets. The original plan target is not expected to be achieved because major States like U.P., Bihar, West Bengal, Rajasthan and Assam have not even introduced the Draft Bill. Financial assistance of the order of Rs. 10 lakhs to regulated markets for developing market yards and for providing amenities therein was given to the States of Bombay, Orissa and Mysore during 1957-58 and a sum of Rs. 9·25 lakhs was allotted to the States of Andhra Pradesh, Bombay, Madhya Pradesh, Mysore, Orissa and Delhi during 1958-59.

In the one year training course for Agricultural Marketing, 20 Officers received training during 1956-57, 16 in 1957-58 and 17 in 1958-59. The training course during the years 1956-57 and 1957-58 was held at New Delhi but consequent on the shifting of the Directorate of Marketing and Inspection to Nagpur in July 1958, the course during 1958-59 was organised at Nagpur. The training centres at Sangli (Bombay) and Hyderabad which gave courses of four months duration, trained 104 market secretaries during the year under review.

### Horticulture

The development of fruits and vegetables during the second plan envisaged planting of new orchards over an area of 1·33 lakh acres and rejuvenation of about 5 lakh acres of existing orchards. The progress of planting of new and rejuvenation of existing orchards and other horticultural programmes till 1958-59 was as follows:—

| | 1956-57 | 1957-58 | 1958-59 | |
|---|---|---|---|---|
| | Achievement | Achievement | Target | Achievement |
| New orchards ('000 acres) . . . . | 14·0 | 30·0 | 27·3 | 27·5 |
| Old orchards ('000 acres) . . . . | 8·0 | 19·0 | 43·7 | 22·3 |
| No. of gardeners trained . | 562 | 796 | 951 | 835 |
| No. of seed certification centres . | 3 | 3 | 5 | 2 |

Intensive research schemes on various fruits such as mango, guava, citrus, grapes and pineapple were taken up in the States of West Bengal, Uttar Pradesh, Madras, Assam, Punjab, Madhya Pradesh, Bombay, Andhra Pradesh and Himachal Pradesh. At the main Regional Fruit Research Station at Mashobra, manurial, fertiliser and propagation trials on apples, plums, cherries, etc., were carried out during 1958-59.

## CHAPTER IV

# ANIMAL HUSBANDRY, DAIRYING AND FISHERIES

There was a marked step up of expenditure on animal husbandry and dairying programmes during 1958-59. With the removal of difficulties experienced at various stages of formulation, administrative approval and implementation of schemes, the tempo of expenditure had picked up. The slow progress of expenditure in the initial years was attributed to shortages of foreign exchange, scarcity of key materials like cement and steel, dearth of technical personnel but above all due to administrative delays resulting from the reorganization of States.

Progress of expenditure during the first three years of the plan is shown in the table below:—

(Rs. lakhs)

| | Plan Outlay 1956-61 | Actuals 1956-57 | Actuals 1957-58 | Actuals 1958-59 | Total 1956-59 | (5) as % of (1) |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| Animal Husbandry | 3739·52 | 194·38 | 337·21 | 595·7 | 1117·88 | 30·0 |
| Dairying and Milk Supply . | 1781·74 | 126·75 | 170·31 | 401·24 | 691·36 | 38·8 |
| TOTAL . | 5521·26 | 321·13 | 507·52 | 996·31 | 1809·24 | 32·9 |

### KEY VILLAGE SCHEME

The Key Village Scheme is the principal development scheme for the improvement of cattle in the country. Under this project all aspects of cattle improvement, *viz.* breeding, feeding, management, disease control, and marketing are attended to by suitably qualified staff. The progress of the scheme during the first three years of the plan is given below:

| | Second Plan Target | 1956-57 | | 1957-58 | | 1958-59 | | Total 1956-59 | % of Plan Target |
|---|---|---|---|---|---|---|---|---|---|
| | | Target | Achievement | Target | Achievement | Target | Achievement | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| No. of Key Village Centres | 1258 | 406 | 274 | 382 | 326 | 300 | 246 | 846 | 67·3 |
| Artificial Insemination Centres . . | 245 | 58 | 34 | 66 | 60 | 62 | 47 | 141 | 57·6 |
| No. of calves subsidised . | 34545 | 4030 | 1751 | 5191 | 3148 | 6428 | 2508 | 7407 | 21·4 |
| No. of Extension Centres . | 254 | .. | 7 | 16 | 16 | 59 | 10 | 33 | 13 |

Programme for the development of food and fodder resources in the Key Village areas was intensified during the year under review. The scheme provides for production and supply of seeds, cuttings and root slips of fodder crops, pasture grass and legumes to cultivators at subsidised rates, setting up of village pasture demonstration plots, establishment and improvement of pastures of State Livestock Farms, encouraging the practice of conservation of surplus fodder and grass by subsidising construction of silo pits and adoption of rational feeding of stocks by subsidising supply of concentrates and mineral mixtures to cattle owners in paddy growing areas.

In the sphere of marketing the progress was relatively slow. Pilot schemes in selected breeding tracts collected preliminary information regarding production, marketable surplus and avenues for disposal of livestock and livestock products.

**Gosadans**

Progress of the scheme during the first three years of the plan is given below:

| | Plan Target | 1956-57 | | 1957-58 | | 1958-59 | | Total 1956-59 | % of Plan Target |
|---|---|---|---|---|---|---|---|---|---|
| | | Target | Achievement | Target | Achievement | Target | Achievement | | |
| No. of Gosadans . . | 60 | 20 | 11 | 17 | 14 | 11 | 7 | 32 | 53·3 |

With the addition of 7 more Gosadans in 1958-59 about 50 per cent of the plan target was achieved. The relatively slow progress of the scheme was due to the lack of suitable sites, transport difficulties and absence of necessary legislative sanction in some States. For eliminating damage to crops, a campaign for catching wild and stray cattle and their economic disposal was launched as part of the Gosadan Scheme. The scheme was put into operation in Delhi and Jammu & Kashmir.

A centre was established at Delhi to give training in scientific methods of hide flaying, curing and carcass utilisation. The centre has facilities to train 20 trainees in three batches every year. Steps were taken to develop the Bakshi Ka Talab Centre at Lucknow.

**Goshalas**

During 1958, 46 new goshalas were established bringing the total number of goshalas to 178 as against the plan target of 346.

**Rinderpest Eradication**

During the period under report, the National Rinderpest Eradication Campaign was started in six more States thus extending the coverage to eleven States. The border areas between West Pakistan and the States of Punjab, Rajasthan and Bombay, between Nepal and the States of Uttar Pradesh, Bihar and West Bengal and between Sikkim/Bhutan and West Bengal were surveyed. To prevent the ingress of rinderpest from the neighbouring countries, it was proposed to set up a chain of Quarantine

Stations on the land frontier of the country. The following table shows the progressive increase in the number of cattle vaccinated and the quantity of vaccine produced.

| Period | Number of Cattle Vaccinated (Lakhs) | Quantity of vaccine produced (lakh doses) |
|---|---|---|
| 1955-56 | 60·00 | 75·00 |
| 1956-57 | 73·45 | 105·97 |
| 1957-58 | 138·14 | 290·95 |
| 1958-59 | 161·50 | .. |

### SHEEP AND WOOL EXTENSION CENTRES

Progress of the scheme is indicated by the following figures:—

| Plan Target 1956-61 | 1956-57 |  | 1957-58 |  | 1958-59 |  | Total 1956-59 | % of Plan Target acheived |
|---|---|---|---|---|---|---|---|---|
|  | Target | Achievement | Target | Achievement | Target | Achievement |  |  |
| 396 | 91 | 20 | 164 | 106 | 141 | 96 | 222 | 56 |

### POULTRY DEVELOPMENT

The All India Poultry Development Scheme envisaged the establishment of 300 poultry Extension-*cum*-Development Centres of these 167 were set up by 1958-59. The Delhi State Poultry farm was converted into a Regional Poultry farm. Two farms were established in Himachal Pradesh and Orissa and two additional farms are to be set up at Bombay and Bangalore. The progress of the scheme since the beginning of the plan is shown below:

|  | Plan Target 1956-61 | 1956-57 |  | 1957-58 |  | 1958-59 |  | Total Achievement 1956-59 | % of Plan Target |
|---|---|---|---|---|---|---|---|---|---|
|  |  | Target | Achievement | Target | Achievement | Target | Achievement |  |  |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Poultry Extension-*cum*-Development Centres. | 300 | 100 | 68 | 100 | 51 | 47 | 48 | 167 | 56 |

### DAIRYING AND MILK SUPPLY

The second plan aims at the establishment of 37 cooperative milk Unions, 12 rural creameries, 7 milk product factories and colonisation of cattle in Calcutta, Delhi, Bombay and Madras associated with the establishment of large dairies and expansion of existing milk institutions. Schemes for milk supply to Chandigarh, Hissar, Agra, Gorakhpur, Bangalore, Gaya, Trivandrum, Agartala, Sholapur and Karjat progressed further and new schemes for the supply of milk at Patna, Jaipur, Bhopal, Coimbatore, Cuttack, Hyderabad and Nagpur were taken up. For the Patna milk scheme an assistance of Rs. 5·33 lakhs was available from the New Zealand Government. A scheme for supplying 400 maunds of milk daily to Ahmedabad was also started. This scheme is to be expanded to handle about 1500 maunds of milk daily with the UNICEF assistance. The cooperative milk supply unions of Guntur, Kurnool, Madras and Allahabad were given assistance for further expansion. The production of butter and skimmed milk powder increased at the Kaira Cooperative Milk Union, Anand and the production of condensed milk commenced. Work on the milk powder factory at Amritsar and creameries at Barauni, Aligarh and Junagarh was started. The installation of Rajkot milk conservation plant was in progress.

Under the Delhi Milk Supply Scheme, it was planned that a Central Dairy equipped with modern dairying equipment be set up along with milk collection and chilling centres equipped with requisite machinery in the villages around Delhi. The buildings of the Central Dairy and of three milk collection and chilling centres neared completion. A large part of the equipment was received from U.K. and Sweden and equipment for 5 milk collection and chilling centres was received from Denmark.

Under the Madras milk project, construction of cattle housing units was started and the location of a 2000 maund dairy was decided. For this project, aid to the extent of Rs. 28·66 lakhs was made available under the Colombo Plan by the New Zealand Government.

The progress of the Calcutta Milk Project was satisfactory. About 3,000 milch animals were rehoused at the Haringhata Colony where the daily output of milk had increased to about 1,200 maunds as against 750 maunds in 1957. Work on the construction of a new dairy in Calcutta also progressed according to schedule.

The scope of the Aarey Milk colony at Bombay was broadened. The construction of a hostel at Aarey Colony was in progress. Experimental work on the preparation of sterilized milk was undertaken with UNICEF assistance. Site for the establishment of a second Dairy in Bombay was selected and preliminary work taken up.

The work on the establishment of the Research Institute, Karnal progressed according to schedule and training for B.Sc. (Dairying) and the Indian Dairy Diploma was continued. Technicians connected with dairy schemes in the States were given in-plant training at Aarey Milk Colony, Bombay, Haringhata Milk Colony, Calcutta and the Kaira Cooperative Milk Union, Anand. Trainees were also sent abroad under foreign aid programmes.

### FISHERIES

The financial outlay for the plan period and progress of expenditure during 1958-59 for States and Central Schemes are given in the table below:

(Rs. lakhs)

| | Plan Outlay | 1956-57 | 1957-58 | 1958-59 Revised | Total 1956-59 | % of Plan Target |
|---|---|---|---|---|---|---|
| Centre . | 186·36 | 4·90 | 9·54 | 20·01 | 34·45 | 18·4 |
| States . . . . | 600·00 | 70·17 | 104·88 | 170·65 | 345·70 | 57·6 |
| TOTAL . | 786·36 | 75·07 | 114·42 | 190·66 | 380·15 | 48·2 |

Further progress was made in the survey of inland waters, reclamation and stocking and collection of frys, fingerlings and spawns. One harbour specialist under the Expanded Technical Assistance Programme of F.A.O., continued work in connection with the development of fishing harbours in the States of Bombay, Mysore, Kerala and Madras. Two fisheries engineers worked on Madras, Malabar, Kanara and Kathiawar coasts for introducing new types of fishing gear, which was supplied at subsidised cost, and training fishermen in the use and maintenance of mechanised aids. Procurement of diesel engines and nylon fishing nets was affected by foreign exchange shortages. Under the Indo-Norwegian Project 90 boats of improved types were built and a new 25 ft. boat was designed.

One hundred and forty local fishermen were trained in mechanised fishing. Indian instructors and fishermen continued to receive training in power fishing at Cochin.

A fish marketing expert was engaged in formulating new schemes on an All-India basis in cooperation with the States.

A conference of State Fisheries Ministers was held in Mysore in July, 1958 to discuss problems relating to inland fisheries. A Central Board of Fisheries was established to co-ordinate and integrate activities in the field of fisheries development and research throughout India.

## *CHAPTER V*

## FORESTS AND SOIL CONSERVATION

Significant progress in carrying out soil conservation measures on agricultural land was made during 1958-59. Progress in respect of most other schemes was also accelerated during 1958-59 but achievement in the rehabilitation of degraded forests was meagre.

### Progress of Expenditure

Progress of expenditure on schemes of soil conservation and forestry was stepped up in 1958-59. The slow progress in the initial years was mainly due to the reorganization of States, the late sanction of the schemes and lack of trained personnel.

Progress of expenditure during 1956—59 and the corresponding plan outlay are given in the following table:—

(Rs. crores)

| | Outlay | Expenditure | | | |
|---|---|---|---|---|---|
| | 1956-61 | 1956-57 | 1957-58 | 1958-59 | Total 1956-59 |
| 1 | 2 | 3 | 4 | 5 | 6 |
| Forests and soil conservation : . | 45·96 | 4·37 | 5·75 | 7·53 | 17·65 |

**Forests**

During 1958-59 emphasis was continued on schemes relating to the plantation of trees, rehabilitation of degraded forests, construction of forest roads, survey and demarcation, wild life preservation and development of minor forest products.

Progress of the main programmes of forest development during the first three years of the second plan is given below:—

| | Unit | Plan Targets 1956-61 | Achievements | | |
|---|---|---|---|---|---|
| | | | 1956-57 | 1957-58 | 1958-59 |
| Forest Plantations . . . | '000 acres | 461·3 | 62·5 | 75·9 | 80·8 |
| Rehabilitation of degraded forests | „ | 547·6 | 85·0 | 115·5 | 21·6 |
| Forest communications (Roads) | miles . | 5,850 | 674 | 1,088 | 1,206 |
| Survey and demarcation . | '000 miles | 20·9 | 6·0 | 4·6 | 7·7 |
| | '000 sq. miles. | 24·7 | 2·7 | 3·3 | 4·2 |

Nature conservancy programmes which were also implemented included the development, preservation and propagation of indigenous faunae in their natural habitats. National parks were established and developed especially in the States of Bombay, Madhya Pradesh, Bihar, Orissa and West Bengal. In addition, schemes to develop selected areas to attract tourist traffic by formation and development of game sanctuaries were also implemented in the States of Rajasthan, Madhya Pradesh, Kerala and West Bengal.

A logging training centre was set up at Batote (Jammu and Kashmir) where two batches of basic logging trainees completed the course. The number of candidates trained during 1958-59 at the Indian Forest College was 122 and the number trained at the Northern and Southern Forest Rangers' Colleges was 146 and 140 respectively.

### Soil Conservation

Soil conservation work was conducted on a more intensive scale during 1958-59. The Central Soil Conservation Board sanctioned 171 schemes involving Central assistance of about Rs. 310·8 lakhs. The total number of schemes sanctioned until 1958-59 was 327. The principal schemes related to soil conservation survey and land use planning, soil conservation measures on agricultural land, desert areas, catchment areas of river valley projects, hilly regions, ravine and waste lands.

Principal achievements of some of these programmes during 1956–59 are shown in the following table:—

| | Unit | Plan Target | Achievements | | |
|---|---|---|---|---|---|
| | | 1956-61 | 1956-57 | 1957-58 | 1958-59 |
| Land Survey . . . | Lakh acres | 29·4 | 2.12** | 3·67** | 1·68* |
| Soil Conservation on agricultural land . . . . . | „ | 20·5 | 1·53 | 2·60 | 4·00 |
| Afforestation . . . . | „ | 9·2 | 0·63 | 1·06 | 1·11 |

*Excludes achievements for Bombay.

**Excludes achievements for Bihar.

Progress in individual States varied considerably. Progress in the States of Bombay, Madras, Mysore and Orissa was, on the whole, satisfactory. The slow progress in other States was due to lack of trained staff. The Central Government appointed three Liaison Officers at the Headquarters of the States of Andhra Pradesh, Punjab and Madhya Pradesh to assist the departmental officers concerned in formulating and executing schemes promptly. Soil Conservation Boards were also set up in many States to assist them to carry out their soil conservation programmes and to undertake suitable legislation for better land use planning.

The Central Soil Conservation Board continued to run the Desert Afforestation Research Station, Jodhpur and the Soil Conservation Research, Demonstration and Training Centres at Dehradun, Kotah, Bellary and Ootacamund, and the research centres at Vasad, Chatra (Nepal), Chandigarh and Agra.

The Desert Afforestation Research Station, Jodhpur carried out new roadside plantations on 15 miles and wind-break plantings on another 15 miles along roadsides of the Central Mechanised Farm at Suratgarh. For stabilisation of shifting sand, 35 sq. miles of barren land was closed for natural growth of grass and other vegetation.

## *CHAPTER VI*

## COMMUNITY DEVELOPMENT

The year 1958-59 in an important landmark in the working of the community development programme. Decisions involving far-reaching changes were taken during the year on the basis of the recommendations of the Committee on Plan Projects headed by Shri Balwantrai G. Mehta.

The programme was rationalised into two phases, namely, Stage I and Stage II having a period of five years each in place of the three phases namely, National Extension Service Stage, Community Development Stage and Post-intensive Stage. The schematic budget was raised to Rs. 12 lakhs for Stage I and Rs. 5 lakhs for Stage II. Besides, a pre-extension phase for a period of one year was provided for each new block. During this period one Block Development Officer, one Agricultural Extension Officer and five Village Level Workers are provided and they will concentrate on agricultural activities in the block. It was also laid down that extension of the Community Development movement should not be automatic and the preparedness of the people of the area selected for a block to receive the benefits of the programme will be tested through certain simple norms of self-reliance. Self-reliance tests will also be applied before the conversion of the pre-extension blocks into Stage 1 blocks.

The most important recommendation of the Balwantrai Mehta Committee is regarding decentralisation of administration and democratisation of powers. The scheme referred to in the Committee's report as 'Democratic Decentralisation' has come to be known as Panchayati Raj. Under this scheme a democratic body in each development block would take charge of development activities in the block. There will be three-tier integrated organic structure with Panchayats at the base, Zila Parishads at the apex and the Panchayat Samities in between. The Standing Committee of the National Development Council affirmed the objective of introducing a democratic structure of administration within the district above the village level and approved of the general principle of giving responsibility for development to representatives of the people within the district. Each State was asked to work out the structure which suited its conditions best and it was considered that there was no need for insisting upon uniformity between different parts of the country.

It was firmly recognised that the village panchayat and the village cooperative make effective village democracy possible and these two institutions along with the village school were the most important instruments for carrying out the community development programme. The Community Development Ministry formulated schemes for the training of personnel connected with panchayat work. Emphasis was also placed on training of non-servicemen and the scheme for training of non-official members of Block Development Committees was sponsored. While the different training programmes for officials continued, the establishment of a Central Institute at Mussoorie for giving orientation training to senior officers like Development Commissioners, Heads of Departments and Collectors and non-officials including M.Ps. and M.L.As. and the setting up of an institution at Dehradun for training Principals and staff of various training institutions connected with the community development programme, were the important developments during the year 1958-59.

A United Nations Evaluation Mission was invited to study and evaluate the Community Development programme in the country. Evaluation by another independent body after every few years, besides the current evaluation that is being done by the Programme Evaluation Organisation, was also one of the recommendations of the Committee on Plan Projects.

### PROGRESS OF EXPENDITURE

The total expenditure during the first plan, the progress of expenditure during the first three years of the second plan together with the second plan outlay are given below:—

(Rs. crores)

| Item | First Plan | Second Plan | | | | |
|---|---|---|---|---|---|---|
| | | Plan Target 1956-61 | 1956-57 | 1957-58 | 1958-59 | Total 1956-59 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1. Block Headquarters (includes Transport, Office-building, Equipment etc.). | 9·62 | 43·00 | 5·13 | 9·28 | 11·52 | 25·93 |
| 2. Agriculture and Animal Husbandry. | 3·52 | 67·00 | 1·76 | 1·68 | 1·82 | 5·26 |
| 3. Irrigation and Reclamation | 8·08 | | 4·74 | 6·97 | 9·12 | 20·83 |
| 4. Health and Rural Sanitation | 4·52 | 18·00 | 2·29 | 3·12 | 3·01 | 8·42 |
| 5. Education | 2·65 | 12·00 | 2·52 | 2·54 | 2·16 | 7·22 |
| 6. Social Education | 1·95 | 11·00 | 0·96 | 1·53 | 1·97 | 4·46 |
| 7. Communications | 6·64 | 17·00 | 0·95 | 2·11 | 1·80 | 4·86 |
| 8. Village Industries | 1.78 | 10·00 | 1·05 | 0·84 | 0·78 | 2·67 |
| 9. Housing | 0·36 | 15·00 | 1·34 | 1·29 | 2·16 | 4·79 |
| 10. Miscellaneous | 7·76 | .. | 2·96 | 1·36 | 5·22 | 9·54 |
| TOTAL | 46·88 | 193·00 | 23·70 | 30·72 | 39·56 | 93·98 |

**Peoples' contribution in cash, kind and labour totalled Rs. 74·59 crores as against the total Government expenditure of Rs. 140·86 crores since the inception of the programme in 1952 upto March, 1959.**

## PROGRESS OF DEVELOPMENT PROGRAMMES

The over-all progress of the community development programme during the first three years of the second plan is shown below:—

| | Upto March 1956 | Target 1956-61 | Upto March 1957 | Upto March 1958 | Upto March 1959 |
|---|---|---|---|---|---|
| No. of blocks . . . | 951 | 3,087 | 1,814 | 2,152 | 2,405* |
| Population covered (in millions) | 68·6 | 204·0 | 130·0 | 150·0 | 165·1 |
| No. of villages covered ('000) . | 105·8 | 386·0 | 234·9 | 276·0 | 302·9 |

*Excludes 282 Pre-extension Blocks.

Progress in different fields of development is reviewed in the following paragraphs.

### Agriculture

The programme of increasing agricultural production in community development blocks received greater attention in 1958-59. Popular effort was mobilized through organised campaigns based on a few selected items capable of being carried out with local resources without much outside assistance. The experience gained during the Kharif production campaign in the block areas of Uttar Pradesh and Bihar was utilised in planning and initiating Rabi production campaigns in Uttar Pradesh, Bihar, Punjab, Rajasthan, Bombay, Andhra Pradesh, Mysore, Madhya Pradesh and Delhi. The Agricultural Department and the Block Extension Agency worked in cooperation with trained gram sahayaks, progressive farmers and members of panchayats and cooperatives to utilise fully all available local resources of improved seeds, manure and irrigation.

Progress of the important agricultural schemes is shown in the following table:—

| | 1956-57 | 1957-58 | 1958-59 |
|---|---|---|---|
| 1. Distribution of improved seeds ('000 mds.) . | 3,741 | 5,250 | 6,988 |
| 2. Distribution of chemical fertilizers ('000 mds.) . | 9,405 | 13,290 | 15,855 |
| 3. Agricultural Demonstrations held ('000 Nos.) . | 1,511 | 1,702 | 2,298 |

The supply of improved seeds fell short of the demand in the newly opened blocks as arrangements for the multiplication and distribution of improved seeds took time to materialise. In the older blocks the supply of chemical fertilisers was inadequate to meet the growing demand. The programme for building up the fertility of the soil by the increased use of green manures, soil conservation measures, and better utilisation of cattle dung (through compost making) made good progress in the Southern States and was successfully initiated in Uttar Pradesh, Bihar, and Orissa. An area of 25·0 lakh acres was brought under green manuring and 25·0 lakh compost pits were utilised.

During the year under review a number of measures were initiated to strengthen the groundwork for agricultural extension in collaboration with the Ministry of Food and Agriculture. These measures included: organising demonstration and training programmes for agricultural officers in soil conservation; pilot experiments in farm management and in afforestation of waste lands in block areas; study of problems of agricultural administration; splitting up of targets of agricultural production down to block and gram sevak's circles; revision of the syllabus for the training of gram sevaks; arrangements for training in extension work at the agricultural colleges; and testing the results of research in the villages around agricultural research stations.

### Minor Irrigation

During the first two years of the second plan the minor irrigation programme did not make satisfactory progress due to inadequate organisation, shortage of technical personnel and disparity between the rules for the grant of loans and subsidies under GMF and CD programmes. By 1958-59 most States had set up appropriate organisations for the execution of these works; shortages of engineering personnel were generally overcome; and rules for grant of loans and subsidies were formulated on a uniform basis. The tempo of minor irrigation works steadily increased and is reflected in the figures of annual expenditure which went up to Rs. 474 lakhs during 1956-57 and Rs. 697 lakhs during 1957-58 as against Rs. 808 lakhs during the first plan period. During the first six months of 1958-59, the expenditure was Rs. 223 lakhs against Rs. 174 lakhs during the first half of the previous year. To secure immediate benefits, programmes for the renovation of derelict works and proper maintenance of existing works was given a high priority in 1958-59. In the States of Andhra Pradesh and Kerala a beginning was made in entrusting the execution and maintenance of minor irrigation works to panchayats and cooperatives.

### Animal Husbandry and Fisheries

The year under review evidenced a somewhat increasing appreciation of the need for paying greater attention to animal husbandry. A minimum programme of activities in the blocks was drawn up and implemented in Andhra Pradesh, Madhya Pradesh, Bihar, Orissa, Uttar Pradesh, Madras and Rajasthan, while efforts were made in other States to ascertain the needs of the blocks and to draw up suitable programmes. Progress of selected schemes is shown in the following table:—

| | 1956-57 | 1957-58 | 1958-59 |
|---|---|---|---|
| 1. Pedigree animals supplied (Nos.) . . . . | 12,000 | 15,000 | 17,000 |
| 2. Improved birds supplied (Nos.) . . . . | 1,45,000 | 1,87,000 | 2,76,000 |

Shortages of good quality bulls, rams, boars and poultry tended to hamper more rapid progress. Shortage of technical personnel was also experienced in most States. The rinderpest eradication programme was a success; over 35 million cattle were protected since the inception of the scheme in 1954.

For the development of inland fisheries, the States of Madhya Pradesh, Rajasthan, Bombay, Orissa and Bihar undertook surveys of their water resources. A minimum programme of inland fisheries development was adopted in the States of Orissa, Bihar, Andhra Pradesh, Madras and Kerala. Intensive stocking of inland water spreads of the block areas with improved varieties of finger-lings was continued.

## Village and Small Scale Industries

Industrial potential surveys of individual pilot projects for drawing up comprehensive plans of development of cottage and small scale industries were completed. These survey reports were forwarded to State Governments for implementation. The life of the pilot projects, originally sanctioned for a period of three years, was extended upto March, 1961.

Although some of the existing pilot projects did comparatively good work, the toal achievement was below expectation, particularly in providing greater employment potentials. These projects have highlighted some of the weak spots in rural industrialisation such as the lack of adequate supervision at the district level, lack of coordination between the various agencies, lack of facilities for marketing products locally and inadequacy of finances, materials and technical assistance.

The establishment of 9 small industrial estates in pilot project areas and 20 rural industrial estates in community development blocks were approved. Construction work had been completed in two small industrial estates and three rural industrial estates.

The training-*cum*-production centres (financed out of the Arts and Crafts budget) were reorganised into exclusively training centres, production being undertaken by industrial cooperative societies or by the Government prior to the formation of a cooperative society.

A scheme for the supply of improved hand tools to village blacksmiths and carpenters at subsidised cost was prepared in collaboration with the Ministry of Commerce and Industry and circulated to the State Governments for implementation.

The programme of extending the processes developed by national laboratories to the rural areas made encouraging progress. Three processes, namely brick-making from black cotton soil, water proofing mud plaster for rural areas, and making of roads from stabilised soils were being tried out in pilot projects in Andhra Pradesh, Bombay, Madhya Pradesh, Delhi, Assam and Punjab. A large number of other processes such as those developed at the Food Technical Research Institute, National Chemical Laboratory, Regional Research Laboratory (Hyderabad), Central Leather Research Institute and the Central Fuel Research Institute were also tentatively selected for extension to rural areas.

## Health

The minimum health programme (for providing health care and family planning advice through primary health centres and drinking water in rural areas) recommended by the Sixth Development Commissioners Conference (Mussoorie) was accepted by all the State Governments and steps were taken to implement the programme.

**Progress under this head is as follows:**

| | 1956-57 | 1957-58 | 1958-59 |
|---|---|---|---|
| Drinking water wells constructed . . . . | 28,000 | 38,000 | 45,000 |
| Drinking water wells renovated . . . | 41,000 | 39,000 | 65,000 |

In the field of communicable diseases the recommendations relating to the control of epidemics, particularly small pox and cholera made at the Annual Conference on Community Development at Mount Abu, were accepted by all States and expert committees were set up in most States to advise on action to be taken.

The removal of the distinction between national extension service and community development blocks caused considerable strain on the State Health Departments during the year under review as in the National Extension Service stage very little health programme was contemplated and consequently no provision had been made for the establishment of primary health centres. This necessitated a review of the existing staff and training facilities with a view to expanding the existing centres and establishment of new training centres.

Greater financial assistance for the staff and building of primary health centres and sub-centres and for construction of residential quarters was made available as a result of the pooling of resources of the Ministries of Health and Community Development.

Other features of the year were: increased attention was given to health education and training programmes at the Orientation Training Centres; school health and school feeding programmes were initiated in a number of States, though on a limited scale; family planning programme was integrated with the maternity and child health service in the blocks and the subject of family planning was incorporated in the syllabus of all training centres.

## Education

A feature of the period was the attention given to the attendance of girls in rural schools. With the appointment of school mothers and provision of residential quarters for women teachers more staff became available. Attendance scholarships were also awarded to girl students.

Pilot projects for compulsory elementary education were initiated in selected blocks in West Bengal and Bombay. Several other States had finalised similar schemes.

Community participation in the organisation and maintenance of village schools was discussed at the Annual Conference on Community Development at Mount Abu. The majority of the States and Union Territories accepted the recommendations of the Conference and a number of States were able to elicit public cooperation and participation in the maintenance of village schools.

### Social Education

In the field of social education, the year 1958-59 witnessed a shift in emphasis from the literacy drive to the organisation of youth groups, farmers groups, interest groups and village leaders' training camps. In Uttar Pradesh and Punjab the Youth Organisations successfully undertook programmes of economic development and social services. Community Centres continued to function mainly as centres of recreation and efforts were intensified to develop them into multipurpose centres.

The average performance of a block by the end of March, 1959 consisted of opening 46 community centres and 23 reading rooms, setting up 42 Youth and Farmers Clubs (with 584 members attending 174 meetings) and organization of 15 village camps (training 644 villagers). This achievement compared well with the progress in the previous year.

### Rural Housing

A sum of Rs. 70 lakhs was allotted by the Central Ministry of Works, Housing and Supply during 1958-59 for the implementation of the Village Housing Projects Scheme. One thousand villages were allotted to the different States for implementation of the scheme in blocks, in addition to the 500 allocated last year. In the majority of Sates, Housing Cells were set up and rules for grant of loans were framed.

### Women's Programme

Women's programmes made appreciable progress during 1958-59. By March, 1959, 24,100 Mahila Samities were functioning in 2,380 reporting blocks an average of 10 samities per block. The membership in 2,081 reporting blocks was 4.12 lakhs giving an average of 198 members per block. Greater emphasis was given to economic programmes and industrial cooperatives for women were encouraged in all States particularly in Bombay, Andhra Pradesh, Madras and Tripura.

### Tribal Welfare

During the year under review greater effort was made to promote community development programmes in the tribal areas. An integrated approach was made by establishing 43 special multi-purpose blocks in the States of Andhra Pradesh, Assam, Bihar, Bombay, Madhya Pradesh, Orissa, Rajasthan and the Union Territories of Manipur and Tripura. Some difficulties were experienced in obtaining the required number of trained personnel. Efforts were also made to relate the forest economy with the tribal economy by forming cooperatives of the tribals for the utilisation of minor forest products.

### Training Programmes

On the basis of the experience gained from the working of various training institutions and the field performance of the trained workers, the whole range of the training programme for project personnel was reorganised in 1958-59. The four Development Officers' Training Centres were converted into Orientation Training Centres from September 1958. Two new Orientation Training Centres were set up in Rajasthan and

Mysore and two more were to be set up in Madhya Pradesh and Bombay. About 157 Block Development Officers, 72 Social Education Organisers and 166 Extension Officers received orientation training and 125 Block Development Officers were given job and refresher training.

An Institute was set up for imparting training to Principals, Directors and instructors of training institutions run by the Ministry of Community Development and to the Principals of the Extension Training Centres sponsored by the Ministry of Food and Agriculture.

# *CHAPTER VII*

# COOPERATION

## N.D.C. RESOLUTION ON COOPERATIVE POLICY

In November 1958, the National Development Council decided that cooperatives should be organised with the village community as the primary unit and that responsibility for all economic and social development at the village level should vest in the village cooperatives and village panchayats.

The Council indicated that increased agricultural production called for a number of specific measures. These included the full use of irrigation facilities available, application of improved agricultural techniques, especially the multiplication of improved varieties of seed at the village level and the production in every village of organic and green manures, and the adoption by each village community of techniques of dry farming, contour-bunding, soil conservation, etc. These and other programmes, the Council felt, should be carried out through the village cooperatives in which every family is represented. It should also promote programmes supplementary to agriculture, consolidation of holdings and other works of benefit to the community. The village co-operatives would thus be required to play a vital role in rebuilding the rural economy through intensive agricultural production and mobilisation of local manpower and other resources.

The Council considered it essential that in each district and development block, the grant of credit through co-operative agencies should be closely linked with programmes for increasing agricultural production and marketing. It also attached much importance to the development of co-operative marketing and processing societies.

To ensure the success of co-operative development programme on the scale visualized, training programme should be organized for village leaders who work on village panchayats and co-operatives, for teachers in village schools, and for young men in rural areas who can serve as secretaries of village institutions.

## TARGETS AND ACHIEVEMENTS

A consolidated statement of targets and achievements during the first three years of the second plan is given as an appendix to this section. Salient features of the progress during 1958-59 are reviewed, in the following paragraphs.

### Co-operative Credit Societies

The primary agricultural credit societies continued to form the main plank of the co-operative movement. There were 1·75 lakhs primary agricultural credit societies with a membership of 13·00 million at the close of the year 1958-59. The number of societies had increased by about 8,000 and membership by about 2·78 million over the previous year. Average membership per society had increased from 61 in 1957-58 to 75 in 1958-59. Of the new registrations, 4,945 societies were small sized and 3,015 large-sized.

There was a further increase in the quantum of credit extended by Co-operative Societies during 1958-59 as will be seen from the following table:

*Loan and Credit Facilities*

| | Unit | Plan target 1960-61 | 1956-57 | 1957-58 | 1958-59 |
|---|---|---|---|---|---|
| 1. Agricultural credit through primary credit cooperatives. | | | | | |
| (*i*) Short & Medium term | Rs. crores | 200·00 | 67·33 | 96·08 | 125·40 |
| (*ii*) Long term . . | Rs. crores | 25·00 | 3·47 | 4·66 | 6·35 |
| 2. Average Short & Medium term Loan per member . | Rs. | .. | 74 | 94 | 96 |
| 3. Share capital of cooperative credit contributed by State Governments . . . | Rs. crores | 15·00 | 1·60 | 5·83 | 5·74 |
| 4. Advances by the Central Land Mortgage Banks . | Rs. crores | .. | 3·80 | 4·62 | 3·13 |

The National Co-operative Development and Warehousing Board sanctioned financial assistance amounting to Rs. 7·48 lakhs to State Governments for 10,000 village primary societies as against Rs. 1·25 lakhs given for 2,000 societies during the previous year. Large-sized societies were sanctioned financial assistance totalling Rs. 79·23 lakhs in 1958-59.

The Reserve Bank of India also assisted these societies as well as other cooperative financing agencies by giving loans to State Governments for strengthening their share capital. In 1958-59, the amount actually drawn was Rs. 5·74 crores. The State Bank of India also continued to give assistance in the field of integrated scheme for rural credit.

## Co-operative Marketing

The Second Plan witnessed the development of co-operative marketing on a large-scale. By 1958-59, Apex marketing societies had been organised in all the States. The number of primary marketing societies established during 1958-59 was 357 bringing the total since the inception of the plan to 1063 as against the plan target of 1893.

In most States increasing use was made of co-operative organisations for the distribution of fertilizers. In a number of States, co-operative marketing societies were utilized as stockists for the supply of iron and steel for agricultural purposes. Some of the marketing societies were also entrusted with the task of organising the export of agricultural commodities to foreign countries. With a view to co-ordinating the operations of marketing societies and rendering them assistance in matters of supply, sale, export, etc., an All-India organization—the National Agricultural Co-operative Marketing Federation—was established in October 1958 at New Delhi.

During the year N.C.D. and W. Board approved the programme for assisting 500 marketing societies as against 430 in the previous year. The financial assistance sanctioned to various marketing societies amounted to Rs. 127·85 lakhs. The system of granting direct finances to co-operative marketing societies was introduced by the State Bank of India in certain areas. The Bank gave advances to 76 marketing societies amounting to Rs. 71·38 lakhs.

In January 1959, a conference was convened at Calcutta by the Government of India to consider the role co-operatives should play in the marketing, processing and warehousing of jute in the light of their decision to stabilise the price of jute. As a result of these deliberations, a programme was drawn up for the purchase, storage and sale of jute by marketing societies.

As marketing and other organisations were experiencing difficulties in the matter of obtaining suitable sites for construction of godowns, particularly in big mandi centres and in areas where regulated markets existed, it was suggested to the N.C.D. and W. Board by the State Governments that marketing organisations should be allowed to purchase godowns or secure them on hire at mandi and other places and suitable financial assistance be accorded to them for meeting the cost of purchase or rent. The Board agreed to the proposal.

Difficulties experienced in the initial years of the Plan in obtaining godown material like steel and cement and in securing suitable sites were to some extent overcome in 1958-59. As a result, construction work progressed more satisfactorily in most of the States. In 1958-59, marketing societies had constructed 311 godowns at mandi centres. In addition, 927 rural godowns had been organised partly by large-sized societies and partly by marketing societies. The total number of godowns constructed on a cooperative basis till the end of 1958-59 was 3159 as against the Second Plan target of 5543, adding a storage capacity of over 4 lakh tons.

**Warehousing**

The Central Warehousing Corporation continued to perform its functions of acquiring and building godowns and warehouses for the storage of agricultural produce, seeds, manures, etc. It opened three more warehouses during 1958-59 bringing the total number to 10. These warehouses handled 16,758 tons of agricultural produce during the year ending 30th June, 1959.

For the establishment of warehousing corporations in States, legislation was enacted in all the States except Jammu & Kashmir. During 1958-59, State Warehousing Corporations were set up in the States of Andhra Pradesh, Assam, Kerala, Rajasthan and Punjab. All the States except Jammu & Kashmir had, therefore, set up warehousing corporations by the end of 1958-59. Forty-two warehouses were opened in the States of Bihar, Bombay, Madras, Madhya Pradesh, Mysore, Orissa, Uttar Pradesh and West Bengal with a total storage capacity of about 17,000 tons.

To discuss problems relating to warehousing, two All-India Conferences were held during the year under review. Following these discussions the procedure for granting advances by banks against warehouse receipts was simplified with a view to avoid delays. A number of new commodities were also included and margins kept by banks were lowered. Advances by Scheduled banks against warehouse receipts were exempted from the directive issued by the Reserve Bank of India limiting advances against foodgrains.

## Co-operative Processing

During the crushing season of 1958-59, 19 co-operative sugar factories as against 12 in 1957-58 were in production. In addition, two old factories at Etikoppaka and Pravrangar were also in operation. These accounted for a total production of about 1·8 lakh tons of sugar as against 1·5 lakh tons in the preceding year. Cooperative sugar factories accounted for 9·3 per cent of the total sugar production of the country in 1958-59. It is expected that by the end of the current plant period, 31 cooperative sugar factories (as against the plan target of 35) will be producing about 4·2 lakh tons of sugar per year.

As some of the cooperative sugar factories planned for the second plan were unable to proceed with the work of construction on account of the non-availability of foreign exchange for importing machinery, the Government of India decided that these factories should have their sugar machinery largely manufactured in India with only minimum parts imported from abroad. The required machinery would now be manufactured by the Sugar Plant Manufacturing Consortiums. It is expected that six factories would be in a position to go into production in 1960 and five in 1961. In view of the rise in the cost of machinery the N.C.D. and W. Board agreed to increase the quantum of loan to State Governments for contribution to the share capital of these factories.

For processing units other than sugar factories, a target of 48 cotton gins and 118 other units was fixed in the Second Plan. In addition, marketing societies are also expected to take up processing activities as an adjunct to their normal operations. As against this target, by the end of 1958-59 there were 51 cotton ginning and pressing factories and 66 other processing units other than sugar factories. Processing activities were particularly in evidence in the States of Andhra, Bombay, Madras, Madhya Pradesh, Punjab and Uttar Pradesh. While in Andhra, Madras, and Punjab, the emphasis was on encouraging marketing societies to take up processing activities, in Bombay, Uttar Pradesh and Madhya Pradesh, independent processing societies were organised. In the former States oil expellers, ground-nut decorticators, cotton gins, paddy processing plants, sugar-cane crushers, etc. were set up by the marketing societies while in the latter States oil mills, cotton gins and presses and crystal sugar open pan processing units were established independently.

## Cooperative Farming

The National Development Council decided in September, 1957 to establish 3,000 cooperative farming experiments and to select some societies which would be developed further through the programme of cooperative experiments. Accordingly, it was envisaged in the State Plans for 1958-59 to establish 500 cooperative farms during the year. Some of the State Governments undertook surveys of existing farming societies. To help the formulation of an action programme and pattern of financial assistance, the Government of India appointed a Working Group on Cooperative Farming.

## Co-operative Training and Education

The following table shows the progress of training schemes by the end of the year 1958-59:—

| Category | Target (Second Plan) | No. of personnel trained till | |
|---|---|---|---|
| | | 1957-58 | 1958-59 |
| Senior Personnel (Registrars, Assistant Registrars and Senior Personnel of Co-operative Institutions) | 600 | 210 | 289 |
| Intermediate Personnel (Co-operative Sub-Registrars) | 1,600 | 641 | 846 |
| Cooperative Marketing Personnel | .. | 347 | 627 |
| Land Mortgage Banking Personnel | .. | 148 | 226 |
| Block level Cooperative Officers | 4,000 | 1,220 | 1,811 |
| Junior Personnel (Sub-Inspectors of Co-operative Societies, Auditors, Managers of large sized societies, etc.) | 29,000 | 14,000 | 19,000 |
| Non-officials (Secretaries of primary credit societies, Directors, members of Managing Committees & members of the Cooperative Societies) | N.A. | N.A. | 1,25,000 |

The number of training units in 1958-59 was 76 as compared to 52 in the preceding year.

The Central Warehousing Corporation also conducted one month training class at Nagpur for warehousemen and technical assistants.

During the year 1958-59, 2012 office-bearers, managing committee members and 60,000 members and prospective members of cooperative institutions were trained by the All-India Co-operative Union.

### PLAN OUTLAY AND EXPENDITURE

The Plan outlay for 1956-61 and the actual expenditure for the first three years of the second plan are given in the following table:—

(Rs. crores)

| Group | Second Plan Outlay 1956-61 | Expenditure incurred in | | | Total expenditure 1956-59 |
|---|---|---|---|---|---|
| | | 1956-57 | 1957-58 | 1958-59 | |
| 1. Cooperative Credit marketing, processing (other than sugar factories), farming and training | 39·79 | 2·56 | 5·48 | 5·93 | 13·97 |
| 2. Central Warehousing Corporation | 3·92 | 0·40 | 0·40 | .. | 0·80 |
| 3. Cooperative Sugar factories | 5·00 | 0·97 | 0·22 | 0·25 | 1·44 |
| TOTAL | 48·71 | 3·93 | 6·10 | 6·18 | 16·21 |

# APPENDIX

## *Selected Physical Targets and Achievements*

| | Unit | First Plan | Second Plan | | | |
|---|---|---|---|---|---|---|
| | | Achievements | Target | Achievements | | |
| | | 1955-56 | 1960-61 | 1956-57 | 1957-58 | 1958-59 |
| Primary Agricultural Credit Co-operatives set up by the end of the year. | | | | | | |
| Number . . . . | Lakh | 1·60 | .. | 1·62 | 1·67 | 1·75 |
| Membership . . . . | Million | 7·79 | 15·00** | 9·12 | 10·22 | 13·00 |
| Large sized primary agricultural credit societies organised by the end of the year . | Number | .. | 10,400 | 1,721 | 4,297 | 7,312 |
| Average size of Agricultural Credit Society . . . | Memership | 48 | .. | 56 | 61 | 75 |
| Central Land Mortgage Banks organised by the end of the year. | | | | | | |
| Number . . . . | No. | 9 | .. | 12 | 15 | N.A. |
| Membership : | | | | | | |
| (*i*) Individuals . . . | No. in lakhs | 0·9 | .. | 1·16 | 1·51 | N.A. |
| (*ii*) Societies, Banks . | No. | .. | .. | 419 | 539 | N.A. |
| Primary Land Mortgage Banks organised by the end of the year. | | | | | | |
| Number . . . . | No. | 316 | 400 | 326 | 347 | 363 |
| Membership . . . . | No. in lakhs. | 3·14 | .. | 3·32 | 3·76 | N.A. |
| Co-operative Processing | | | | | | |
| Sugar factories which went into production by the end of the year . . . . . . | No. | 1 | 35 | 7 | 13 | 21 |
| Establishment of processing units other than sugar factories by the end of the year | No. | .. | 166 | 14 | 47 | 98 |
| Primary Co-operative marketing societies organised by the end of the year . . . | No. | .. | 1,893 | 279 | 706 | 1,063 |
| Construction of godowns | | | | | | |
| Rural godowns* . . . | No. | .. | 4,000 | 403 | 1,394 | 2,321 |
| By Marketing societies . | No. | .. | 1,543 | 187 | 527 | 838 |

***Godowns of large sized societies and marketing societies.**

****Subsequently raised to 20 millions by the N.D.C.**

## *CHAPTER VIII*

# IRRIGATION AND POWER

## IRRIGATION

### Progress in the Creation of Irrigation Potential

The major and medium irrigation schemes of the first and second plans are expected to create an estimated potential of 38 million acres on completion. It was anticipated (target) that 15·5 million acres of potential would be created by the end of the second plan. The potential so far created (end of 1958-59) is estimated to be 9 million acres. Statewise progress is given in Annexure I. Several factors had impeded more rapid creation of potential. The progress of some of the projects was retarted due to scarcity of construction material, such as steel shortage of foreign exchange for obtaining necessary equipment and spare parts, budgeting without strict regard to the phasing of physical targets, delay in acquisition of lands, delay in investigation and preparation of the projects, shortage of trained and experienced technical personnel, shortage of labour at sites and lack of reliable contractors.

### Progress in the Utilisation of Irrigation Potential

There is bound to be some time lag, varying from project to project, between the availability of irrigation facilities and their utilisation. It is essential, in the context of the present food shortage in the country, that every endeavour should be made to secure maximum utilisation as soon as such facilities become available. It will be seen from the table below that the gap which was found to exist between the availability of irrigation potential and its actual utilisation has been progressively narrowed. Various measures have been taken to ensure quicker and fuller utilisation of the irrigation potential created.

*Irrigation Potential and Utilisation*

| | 1956-57 | 1957-58 | 1958-59 | 1959-60 (Anticipated) |
|---|---|---|---|---|
| (1) Irrigation potential created by the commencement of the year (million acres) . | 5·3 | 6·2 | 7·2 | 9·0 |
| (2) Actual utilisation during the year (million acres) . . . . . | 3·4 | 4·9 | 5·9 | 7·4 |
| (3) Prcentage of preceding year's potential utilised . . . . . . | 64 | 79 | 82 | 82 |

Utilisation of irrigation involves efforts by a number of State Departments, such as, Irrigation, Agriculture, Revenue, Community Development and Cooperation. This entails proper adminisrative co-ordination of departmental action. To achieve this, the Planning Commission advised the State Governments in June 1957 to set up Working Groups at the State level comprising the representatives of all the Departments concerned to review at regular intervals the progress of irrigation benefits. Most States have now set up such Working Groups. The State Governments have also been advised that, for each project, there might be a Working Group of officers directly concerned so that they could initiate and take various steps needed at each level down to the village.

One of the major factors responsible for the lag in the utilisation of irrigation facilities had been the delay in the construction of water courses and field channels. The importance of timely construction of water courses and field channels so as to synchronise with the construction of the distribution system has been impressed upon the State Governments from time to time. To eliminate delay in the excavation of water courses, it was suggested that the alignment should be marked out by the project authorities on village maps and these maps should be supplied to the village and block authorities in good time. It was also stressed that, in the Community Development and National Extension Service areas, it should be the primary responsibility of these authorities to have the field channels constructed through voluntary labour. Outside these areas, the State Governments should arrange for the construction of field channels where the beneficiaries had not done so, recoveries of cost being spread over a reasonable period of time. State Governments have been advised to enact suitable legislation providing for such recovery of cost from the beneficiaries.

In July 1958, the Ministry of Irrigation and Power appointed two experienced retired Chief Engineers as special officers to conduct a detailed study of the progress of utilisation of irrigation facilities in each State and to suggest ways and means to accelerate the utilisation of additional irrigation facilities provided. On the basis of the recommendations made by these officers, the Planning Commission has indicated to the various State Governments the steps to be taken to improve utilisation of the irrigation potential created.

## PROGRESS OF EXPENDITURE

The table below sets out the over-all progress in terms of expenditure on Irrigation and Flood-Control Projects included in the second plan:—

(Rs. crores)

| | Second Plan | | 1956-57 | | 1957-58 | | 1958-59 | | 1956—59 | | (11) as % to (10) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Orig. | Revised. | Annual Plan | Act. Exp. | Annual Plan | Act. Exp. | Annual Plan | Act. Exp. | Annual Plan | Act. Exp. | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| State Irrigation Projects | 380·00 | 379·00 | 84·51 | 69·29 | 81·68 | 72·11 | 74·12 | 68·95 | 240·31 | 210·35 | 87 |
| Border Projects | 35·00 | 24·00 | N.A. | 0·02 | N.A. | 0·14 | N.A. | 2·52 | N.A. | 2·68 | .. |
| Flood Control | 60·00 | 56·00 | 5·00 | 12·82 | 8·20 | 12.22 | N.A· | 10·85 | N.A· | 35.89 | .. |

It will be observed from the above table that during the years 1956—59, actual expenditure on irrigation projects fell a little short of the planned target. The shortfall in expenditure was generally due to lack of technical personnel, shortage in necessary materials and delay in investigation and preparation of schemes.

## PROGRESS OF PHYSICAL ACHIEVEMENTS

### State Irrigation Projects

Progress of irrigation projects in various States is briefly reviewed in the paragraphs that follow.

*Andhra Pradesh.*

The work on the Tungabhadra Right Bank Canal had been completed in all respects, right upto field channels. On the Nagarajunasagar Project, the progress of work was according to schedule. The excavation of foundation for the main dam was nearing completion. The quantity of masonry work done on the dam was 16 million c.ft., as against the total quantity of work of 160 million c.ft. The expenditure incurred on the project to the end of March, 1959 was Rs. 2,061 lakhs, as against the currently estimated cost of Rs. 9,112 lakhs. Romperu Drainage, Rallapad, Siddalangadi and Bhimanapally were completed. Work on the Tungabhadra High Level Canal was under progress.

*Assam*

The second plan of Assam includes five new schemes mainly for investigations and surveys, with a Plan provision of Rs. 63·65 lakhs. An expenditure of Rs. 2·6 lakhs was incurred on the scarcity area schemes continuing from the first plan. Work on detailed investigations, survey and the establishment of a River Research Station and Soil Laboratory was continued.

*Bihar*

The Tribeni Canal Expansion (Phase II) was completed during 1958-59, while the Upper Morhar, the Lilajan schemes, the Mayurakshi Left Bank Canal and Nagi and the Kaurihari schemes were nearing completion. On other schemes, steady progress was maintained. About 66·5% construction work on the Lower Morhar, 78% on the Dhawa, 70% on Jinjoy and 77% on the Adri schemes, was completed by the end of 1958-59. Of the new schemes included in the Second Plan, Khajia (phase II) was completed. 40% work on the Kohira was also completed. Work was commenced on Panchane and Chandan Distribution System. On the rest of the new schemes, work was in progress, except on the Subarnarekha, Morwe, Sunder and Chandan Reservoir schemes, on which work has yet to commence.

On the Kosi Project, the embankments started in January, 1955 were completed, involving 76 crores c.ft. of earth work. It is noteworthy that about 42% of the work on the embankments was done through public cooperation. On the Kosi barrage, out of 202·5 lakh c.ft. of earth work, 192·36 lakh c.ft. were completed. The concreting work on the barrage was carried out by the National Project Construction Corporation. Excavation of the Kosi Main Canal was commenced in April, 1957. Out of a total quantity of 2,654 lakh c.ft., earthwork amounting to 1446:6 lakh c.ft. was carried out by the end of 1958-59.

*Bombay*

On the Kakrapara (Lower Tapi, stage I) Project, the head works consisting of a masonry weir and appurtenant works were completed. The excavation of Left Bank Canal was in progress. The main R. B. canal was almost completed.

On the Mahi Right Bank Canal scheme, work on the weir was completed and was in an advanced stage of construction on the main canal. The canal was opened for irrigation in 1958. The Gangapur (stage I), Ranad and Vir Tank schemes were completed in almost in all respects. Work on the Banas, Vir, Khadakwasla, Girna and Mula projects was commenced. On the Gangapur (stage II) project, the tail and approach channel of the waste weir was completed; work on the extension of the Left Bank Canal and on the construction of Right Bank Canal was making rapid progress. The Ghod project reached an advanced stage of construction. A 16 mile reach of the Ghod Left Bank Canal was thrown open for irrigation in July, 1958. In the Marathwada region, Bendsura and Khasapur schemes were completed. Work on Dheku, Jui, Purna Anicut, Kamli, Talwar, Chandni and Thirna Schemes was well in progress. In the Saurashtra region, six schemes, namely, Ranghola, Barahmani, Sasoi, Moj, Aji and Gondli were completed. Work on Shetrunji and Bhadar schemes was making satisfactory progress. In the Kutch region, four schemes, namely, Gajod, Kaila, Kankavati and Sanandro were completed. In the Vidarbha region, work on Bor and Nalganga schemes was in progress.

*Jammu and Kashmir*

The Awantipur Canal has been completed and work on Pratap Canal Remodelling was in progress. Survey and investigations for new schemes were continued.

*Kerala*

Chalakudy (Stage I) scheme was completed. The spillway at Thottapally under the Kuttanad Development scheme, Peechi, Walayar and Vazhani schemes had been almost completed. Work on Malampuzha, Mangalam, Boothathankettu (Periyar Valley), Neyyar and Chalakudy (stage II) schemes made satisfactory progress.

*Madhya Pradesh*

In the Mahakoshal region, work on Sampna, Dukrikheda, Gondli and Gangulpara schemes was nearing completion. Of the new schemes included in the Second Plan, work on Remodelling of Mahanadi Canals, Maniari Tank, Nahelesara, Kedarnalla and Keshwanalla was in progress.

In the Madhya Bharat region, the work on the channels of the Mola project was completed. Work on the Borad project was in a fairly advanced stage. In the Vindhya Pradesh region, preliminaries on Devendranagar, Nandanwara and Beniganj schemes were almost completed.

On the Chambal Project, work of masonry and concreting for the Gandhisagar Dam was in full swing. Work on the canal system was continued.

*Madras*

7 schemes continuing from the first plan and 6 new schemes undertaken under the second plan were under execution. The continuing schemes, namely, Manimuthar, Mettur Canals, Sathanur, Krishnagiri, Amaravathi and Araniar were practically completed. The work on the Vaigai project was nearing completion. Of the new schemes, work on New Kattalai, Pullambady and Vidur schemes was in progress. Preliminary work on the Parambikulam-Aliyar project was taken up.

*Mysore*

Work on the Tungabhadra Left Bank Canal was completed upto mile 65 in all respects, as against its total length of 127 miles. Earthwork from miles 66 to 103 was nearing completion. Work on the Bhadra Project made rapid progress. A quantity of 166 lakh c.ft. of earthwork and 215 lakh c.ft. of masonry were completed, as against the total quantity of 180 lakh c.ft. of earthwork and 275 lakh c.ft. of masonry required for the completion of the project. The Left Bank Canal was practically completed. On the Right Bank Canal, earthwork excavation in the reach from 0 to 42 miles was nearing completion. Work on the distributary system and on cross-drainage works was in different stages of execution.

On Ghataprabha Project, excavation work of the Left Bank Canal from mile 45 to 71 was under progress. Work on Dharma and Kabbini was also under progress.

*Orissa*

Work on the distributaries and minors of the Hirakud Project was in progress. All the civil works had almost been completed. The area actually irrigated was 2,38,000 acres, as against 3,63,000 acres of potential created till March, 1959. An expenditure of Rs. 62 crores was incurred upto the end of March, 1959, as against the total estimated cost of Rs. 70.78 crores (Stage I).

The progress on the Mahanadi Delta Irrigation Scheme was speeded up. Preliminary works on the weir were commenced. An additional area of 9,250 acres was irrigated by the Delta canals during the year, as against a target of 5,000 acres.

Out of the 8 new medium schemes included in the second plan, preliminary works in respect of Salki, Dhanai and Salandi were under progress. To expedite detailed investigations of the projects, an Investigation Circle was created.

*Punjab*

Concreting work on the Bhakra Dam which was started in November, 1955, continued round the clock during the year and the first stage of concreting was completed by October 1958, raising the dam to a height of nearly 400 ft. above the lowest foundation, out of a total height of 740 ft. Work continued on the second stage of concreting. In all, 33·65 lakh c.ft. of concrete was placed upto the end of March 1959. Storage of water was started in the Govindsagar in July, 1958.

The work on the Madhopur Beas Link was almost completed, Work on Remodelling of Western Jamuna Canal proceeded at a slow pace. Major part of construction on Sirhind Feeder was also completed. The work on "Increasing Capacity of Channels" and "Extension of Non-perennial Irrigation to the areas on Upper Bari Doab Canal," and the lining work on Dadri Irrigation Scheme was in progress. Work on the scheme for "Extension of Irrigation (lift) from the Western Jumna Canal to Rewari and adjoining areas" was commenced.

### *Rajasthan*

Work on the Bhakra Canals in Rajasthan was practically completed. The progress of utilisation of irrigation facilities was satisfactory during 1958-59. On the Chambal Project, work on the Kotah Barrage and the Main Canals was in progress.

Among the medium irrigation schemes continuing from the First Plan, Bankli, Naharsagar and Ummidsagar were completed during 1958-59. The Hamawas scheme was nearing completion. Preliminary work was commenced on Jhakam, Berach at Badgaon, Alnia, West Banas, Bharatpur feeder and Narayansagar. Survey and investigation work for new projects was continued.

### *Uttar Pradesh*

Work on the Dohrighat, and Tanda Pumped Canals was nearing completion. The crest gates on the Matatila dam have to be installed. Work on Sardasagar (stage I), Remodelling Eastern Jumuna Canal, Remodelling Agra Canal and Naraini Gandak Pokhra Canal progressed according to schedule.

Among the new schemes included in the second plan, the Ohen reservoir was completed and irrigation had commenced. The Upper Khajuri, and the Kwano Pumped Canal were nearing completion. Preliminary works on the Ramganga Project were commenced. Most of the work on Jirgo Reservoir was completed. Work on the Tumaria Dam made satisfactory progress. Work on Nanaksagar and Sardasagar (Stage II) made steady progress. The work on the Maja Reservoir was slowed down due to paucity of funds and foreign exchange.

### *West Bengal*

The D.V.C. Canal system was nearly completed and work of the canal structures was in progress. The area actually irrigated was 2,35,000 acres, as against a potential of 3,96,000 acres created at outlets. Work on Mayurakshi, Sonarpur—Arapanch Schemes, and Bagjola-Ghuni Jatragachi Drainage Schemes made satisfactory progress. Work on Amta Drainage scheme was commenced.

## Border Projects

Work on the Rajasthan Canal, 425 miles long and taking off from the Harike barrage, gained momentum. Surveys in the commanded area were continued, as also alignment and survey of Suratgarh Branch and distributaries. To ensure economic and speedy implementation of the project, a Committee of Direction and the Rajasthan Canal Board have been set up.

The Kathua feeder forming part of the Ravi Canal project was under construction in Jammu and Kashmir.

## Flood Control.

Flood Control Boards have been constituted in all the States except Madras and Rajasthan. The High Level Committee on Floods submitted Volume II of its report, indicating therein the general lines on which future flood-control works should be undertaken in specific river basins, as also how some of the most acute problems in some States should be tackled.

As in past, some parts of the country suffered from moderate to severe floods. Major rivers like the Brahmaputra, Kosi, Damodar, Godavari, Teesta, Ravi, Beas and Sutlej were in floods. Large-scale flood damage occurred in Assam, North Bengal, Bihar, Uttar Pradesh, Andhra Pradesh and Delhi. In some other States, the damage was comparatively less. Most of the flood-control works executed in the past few years stood well against these floods and protected the areas served by them. Notable examples were the flood protection works at Dibrugarh, the embankments on the Kosi and the D.V.C. dams. Flood-control works executed since 1954 have afforded protection to 50 lakh acres of cultivated area and 42 towns. In addition, the level of about 4,200 villages has been raised in Uttar Pradesh.

## National Projects Construction Corporation

During 1958-59, the National Projects Construction Corporation undertook the execution of the additional works of masonry structures of the Chambal Project in Madhya Pradesh territory, as also the construction of Wazirabad barrage at Delhi and Kosi barrage in Bihar. Though profit-making is not one of the primary objectives of the Corporation, efforts were made to run it on commercial lines. The Corporation showed a net profit of 8% of the value of work done during 1958-59.

## Advisory Committee on Irrigation, Flood Control and Power Projects

The Advisory Committee on Irrigation and Power Projects met seven times during the year 1958-59 and considered a number of irrigation and power projects included in the Plan. The Committee was reconstituted in April, 1959, as Advisory Committee on Irrigation, Flood Control and Power Projects. The functions of the Committee were widened to include within its purview, examination of irrigation, power and flood-control projects proposed for inclusion in the Third Five Year Plan.

## Betterment Levy

The principle of betterment levy which represents the Government's share in the increase in the value of land that accrues as a result of the provision of irrigation facilities, has been stressed from time to time by the National Development Council and is now the accepted policy of the country. The Second Plan recommended that legislation for betterment levy should be passed without delay in States where it had not been done and necessary steps taken to commence realisations as soon as possible. The legislation has already been passed in States other than

Jammu & Kashmir, Uttar Pradesh, and West Bengal, but the enforcement of legislation has lagged behind, and the realisations so far have fallen far below the targets of receipts fixed for different States. The urgency for promoting the necessary legislation in Jammu and Kashmir, Uttar Pradesh and West Bengal and the necessity to enforce legislation in the other States and to start recoveries without any delay in cases where they had fallen due, have been emphasised by the Planning Commission repeatedly.

**Water Rates**

In view of the fundamental importance of raising adequate internal resources and ensuring that irrigation programmes in India are undertaken on an economic basis, it is essential to make the irrigation system self-supporting. As emphasised in the Plan, water rates must ordinarily cover working expenses and debt charges, and irrigation schemes, other than those in scarcity areas, should not involve loss to general revenues. The project costs per unit of area brought under irrigation, are now considerably higher than those in the past. Similarly, the cost of maintenance is higher than before. But, the existing water rates, in most States, are on the low side and are not applicable to the entire area for which the irrigation facilities have been provided. Over large parts of the country, the cultivator is only required to pay water charges when he actually makes use of the irrigation water for irrigating his crop (*i.e.*, for the area actually irrigated by him). While this system works well generally, it is open to the risk of loss in certain areas where the demand for canal water varies considerably from year to year depending on rainfall. It has, therefore, been emphasised that in addition to the water rates for irrigation, there should be levy of a compulsory cess, related mainly to maintenance costs, on the entire area for which irrigation facilities are provided, irrespective of whether the irrigation supplies are actually utilised by the cultivators or not. The Planning Commission has suggested to the State Governments that the existing water rates should be reviewed in the light of the above observations, and that the question of introduction of a compulsory water cess should also be urgently examined, where it does not obtain at present.

**Public Co-operation**

Provision has been made in the Plan for assistance to voluntary organisations like the Bharat Sewak Samaj for enlisting public co-operation in the execution of irrigation and power projects. Good progress was maintained in carrying out earthwork through public co-operation in Kosi, Nagarjunsagar and Chambal projects. To encourage larger measure of public participation in the execution of river valley projects, certain concessions and incentives such as (i) allotment of works at the prevailing schedule of rates without calling for tenders; (ii) payment of advances to meet expenditure on preliminary arrangements; and (iii) exemption from payment of earnest money or security, were afforded to voluntary organisations like the Bharat Sewak Samaj, Gram Panchayats and Labour Co-operatives.

## II

## POWER

The Second Plan provided for a number of Power Projects which were estimated to yield a benefit of about 4·4 million kW of additional power generating capacity. Of this about 3·5 million kW was originally scheduled to materialise during 1956–61 and the balance in the third plan. In view of the rapid rise in demand for power in a number of regions, such as, the DVC and Delhi areas, supplementary schemes were formulated to augment the generating capacity.

The overall programme of power development encountered serious difficulties in the initial years of the Second Plan, due to shortage of foreign exchange, necessitating assignment of priorities and rephasing of a few projects. With a view to utilising the available foreign exchange for obtaining optimum benefits, power schemes were divided into four categories *viz.*—

(a) schemes included in the list of 'core' projects:

(b) schemes which were nearing completion and for which most of the foreign exchange requirements had been committed;

(c) schemes which had already been assured of external assistance; and

(d) other schemes.

While schemes listed under items (a), (b) and (c) have been proceeding according to schedule, the progress under item (d) has been somewhat slow for want of firm arrangements to meet their foreign exchange needs. There was increasing realisation, however, that postponement of any part of the approved power programme was likely to create a difficult situation before long. The position was reviewed from time to time to explore suitable avenues of foreign exchange to implement these power projects.

It is now estimated that if all the projects included in the Second Plan are completed, a total benefit of 4·8 million kW would be realised. Of this, the benefits that would accrue before the end of March, 1961, is not likely to exceed 2·4 million kW including the output from self-generating industrial establishments and private electricity undertakings.

In the first two years of the Second Plan about 0·6 million kW of generating capacity was added. The expenditure on the public utilities (State owned) in the first two years of the plan period was reckoned at Rs. 160 crores. During the year under review, about 0·3 million kW was added to the generating capacity. The outlay during the year was estimated at Rs. 81·6 crores. Although the installed capacity had increased by about 7·5 per cent only, the actual energy generated rose by 12·9 per cent thereby indicating greater utilisation of the plant capacity. The addition to the generating capacity in the first three years would appear *prima facie* to be comparatively low and not commensurate with the expenditure incurred on them; but it has to be borne in mind that almost all the major schemes, such as, Bhakra Nangal, Rihand, Koyna, Chambal, D.V.C., Kundah etc., on which sizeable amounts have been invested, are scheduled to be completed only in the last two years of the second plan and in the first year of the Third Plan. It is anticipated that on the basis of present progress, the installed capacity by the end of the second plan would be about 5:8 million KW.

## INSTALLED CAPACITY AND ELECTRICITY GENERATED

The growth of installed capacity and electricity generated during the period 1956–59 is outlined below:—

(*a*) *Installed capacity*

| | Installed capacity (million kW) | Percentage increase over the previous year |
|---|---|---|
| End of the First Plan | 3·4 | 7·6 |
| End of 1956-57 | 3·6 | 6·0 |
| End of 1957-58 | 4·0 | 11·0 |
| End of 1958-59 | 4·3 | 7·5 |

(*b*) *Electricity generated*

| | Electricity generated (million kW hrs.) | Percentage increase over the previous year |
|---|---|---|
| During 1955-56 | 10,800 | 12·5 |
| During 1956-57 | 11,870 | 10·0 |
| During 1957-58 | 13,657 | 15·0 |
| During 1958-59 | 15,414 | 12·9 |

Annexure II gives details of the total installed capacity in the different States in the public and private sectors. Annexure III lists the main additions to the Power Plant capacity during 1956–59.

## TRANSFORMER CAPACITY AND TRANSMISSION LINES

The progress of installation of transformer capacity and construction of transmission lines in the country by the end of the year 1958-59 is given in the table below:—

| | As at the end of 1955-56 | As at the end of 1956-57 | As at the end of 1957-58 | As at the end of 1958-59 | Percentage increase over the year (1958-59) |
|---|---|---|---|---|---|
| 1. Power transformers: | | | | | |
| (*a*) Step up (in MVA) | 1,682 | 1,945 | 2,247 | 2,692 | 20 |
| (*b*) Step down (in MVA) | 2,729 | 3,273 | 4,061 | 5,233 | 27 |
| 2. Distribution Transformers (in MVA) | 1,654 | 1,909 | 2,093 | 2,662 | 27 |
| TOTAL | 6,065 | 7,127 | 8,401 | 10,587 | 26 |
| 3. Transmission lines: | | | | | |
| (*a*) 33 kV and below (kilometres) | 31,034 | 41,607 | 83,720 | 90,663 | 9 |
| (*b*) above 33 kV (kilometres) | 10,480 | 11,745 | 21,542 | 22,852 | 6 |

## RURAL ELECTRIFICATION

The tempo of progress achieved in the first two years of the Plan was maintained and about 2,400 additional towns and villages were electrified during the year 1958-59. The number of towns and villages electrified increased to 14,978, having doubled in three years; the number of villages electrified at the end of the first plan was 7,401. The table below shows the break-up according to size of population at the end of 1958-59:—

*Number of towns and villages electrified*

| Sl. No. | Population range | No. of towns and villages in each group | No. of towns and villages with public electricity supply | Percentage of towns and villages with public electricity supply to total |
|---|---|---|---|---|
| 1 | Over 100,000 . . . | 73 | 73 | 100·00 |
| 2 | 50,000 to 100,000 . . . | 112 | 112 | 100·00 |
| 3 | 10,000 to 50,000 . . . | 1,257 | 933 | 74·22 |
| 4 | Below 10,000 . . . | 559,666 | 13,860 | 2·48 |
| | TOTAL . | 561,108 | 14,978 | 2·67 |

# ANNEXURE I

*Irrigation Potential Created and Utilisation for the years, 1956-59*

('000 acres)

| Sl. No. | Name of State/Union Territories | Second Plan target 1956-61 | Actual Irrigation at the end of Ist plan *i.e.*, for the year ending March, 1956 | 1956-57 Potential created at the beginning of the year (*i.e.*, upto March, 1956) | 1956-57 Actual irrigation to end of the year (*i.e.*, by March, 1957) | 1957-58 Potential created at the beginning of the year (*i.e.*, by March, 1957) | 1957-58 Actual irrigation to end of the year (*i.e.*, by March, 1958) | 1958-59 Potential created at the beginning of the year (*i.e.*, by March, 1959) | 1958-59 Irrigation to end of the year (*i.e.*, by March, 1958) | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 1 | Andhra Pradesh | 487 | 92 | 163 | 100 | 238 | 104 | 247 | 239 | |
| 2 | Assam* | 16 | .. | .. | .. | .. | .. | .. | .. | |
| 3 | Bihar | 518 | 219 | 309 | 228 | 309 | 299 | 364 | 386 | |
| 4 | Bombay | 835 | 62 | 157 | 76 | 221 | 138 | 221 | 176 | |
| 5 | Jammu & Kashmir | 97 | 14 | N.A. | 14 | N.A. | 14 | N.A. | 14 | |
| 6 | Kerala | 218 | 74 | 92 | 90 | 98 | 107 | 122 | 236 | |
| 7 | Madhya Pradesh | 230 | 10 | 11 | 10 | 18 | 16 | 22 | 16 | |
| 8 | Madras | 268 | 185 | 185 | 191 | 218 | 321 | 262 | 440 | |
| 9 | Mysore | 940 | 51 | 172 | 68 | 194 | 121 | 365 | 157 | |
| 10 | Orissa | 940 | .. | .. | .. | 90 | 139 | 154 | 266 | |
| 11 | Punjab | 2,617 | 1,378 | 1,788 | 1,640 | 2,194 | 1,810 | 2,475 | 1,810 | |
| 12 | Rajasthan | 963 | 248 | 604 | 157 | 604 | 244 | 604 | 320 | |
| 13 | Uttar Pradesh | 1,120 | 382 | 1,417 | 575 | 1,659 | 1,180 | 1,659 | 1,240 | |
| 14 | West Bengal | 982 | 238 | 389 | 264 | 395 | 426 | 748 | 566 | |
| | TOTAL | 10,145 | 2,953 | 5,287 | 3,413 | 6,238 | 4,919 | 7,243 | 5,866 | |
| 15 | Union Territories | 23 | Nil | N.A. | Nil | N.A. | Nil | N.A. | Nil | |
| | GRAND TOTAL | 10,254 | 2,953 | 5,287 | 3,413 | 6,238 | 4,919 | 7,243 | 5,866 | |

*The schemes are minor in nature.

## ANNEXURE II

*Installed generating capacity by end of 1958-59*

['000 kW]

| Sl. No. | State | Electrical Utilities<br>Public Sector | <br>Private Sector | Self generating Industrial Establishments | Total |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | Andhra . . . . . . | 206 | .. | 53 | 259 |
| 2 | Assam . . . . . . | 14 | 4 | .. | 18 |
| 3 | Bihar . . . . . . . | 193 | 33 | 283 | 509 |
| 4 | Bombay . . . . . . | 265 | 605 | 114 | 984 |
| 5 | Jammu and Kashmir . . . . | 13 | .. | .. | 13 |
| 6 | Kerala . . . . . . . | 114 | .. | 2 | 116 |
| 7 | Madhya Pradesh . . . . . | 111 | 24 | 45 | 180 |
| 8 | Madras . . . . . . | 350 | .. | 27 | 377 |
| 9 | Mysore . . . . . . . | 187 | 4 | 16 | 207 |
| 10 | Orissa . . . . . . . | 132 | 2 | 15 | 149 |
| 11 | Punjab. . . . . . . | 167 | 7 | 19 | 193 |
| 12 | Rajasthan . . . . . | 36 | 11 | 37 | 84 |
| 13 | Uttar Pradesh . . . . . | 285 | 75 | 48 | 408 |
| 14 | West Bengal . . . . . | 74 | 530 | 140 | 744 |
| 15 | Delhi . . . . . . . . | 60 | .. | 11 | 71 |
| 16 | Other Union Territories . . . | 8 | .. | 1 | 9 |
|  | TOTAL . . . | 2215 | 1295 | 811 | 4321 |

# ANNEXURE III

*List of Main Additions to Power Plant Capacity, 1956-59*

1956-57 :

| | |
|---|---|
| 1. Andhra & Orissa | Machkund Project—17,000 kW. (3rd Unit). |
| 2. Andhra & Mysore | Tungabhadra Right Bank Power Station—9,000 kW. (1st Unit). |
| 3. Bombay | (i) Ballarashah Thermal Station—15,000 kW.<br>(ii) Shapur Thermal Station—6,000 kW.<br>(iii) Trombay Thermal Station (Tatas) 50,000 kW, (1st unit) |
| 4. Kerala | Poringulkuthu H. E. Project—3,000 kW (1st Unit). |
| 5. Madhya Pradesh | Itarsi Thermal Station—3,000 kW. |
| 6. Orissa | Hirakud Project—24,000 kW. (1st Unit.) |
| 7. Punjab | Kotla Power Station (Bhakra Nangal)—48,000 kW. |
| 8. Rajasthan | Jodhpur Thermal Station—2,500 kW. |
| 9. Uttar Pradesh | (i) Sarda H. E. Project—13,800 kW.<br>(ii) Allahabad Power Station 4,000 kW. |
| 10. West Bengal | Mayurakshi Project—4,000 kW. |

1957-58 :

| | |
|---|---|
| 1. (i) Andhra Pradesh | Ramagundam Thermal Station—37,500 kW. |
| (ii) Andhra & Mysore | Tungabhadra Right Bank and Canal Power Station—27,000 kW. (3 units) |
| 2. Assam | Umtru Project—8,400 kW. |
| 3. Bombay | (i) Rajkot Thermal Station—3,000 kW.<br>(ii) Trombay Thermal Station (Tatas)—50,000 kW (2nd unit). (Private Sector). |
| 4. Kerala | Poringulkuthu H.E. Project—16,000 kW(2nd & 3rd units) |
| 5. Madhya Pradesh | (i) Raipur Thermal Station—4,000 kW.<br>(ii) Bhopal Thermal Station—2,500 kW.<br>(iii) Saugor Thermal Station—5,000 kW. |
| 6. Orissa | Hirakud Project—61,500 kW (2nd, and 3rd units). |
| 7. Uttar Pradesh | (i) Eastern area power projects—30,000 kW.<br>(ii) Mainpuri Thermal Station—10,000 kW.<br>(iii) Agra Power Station—4,000 kW.<br>(iv) Banaras Power Station—4,000 kW. |
| 8. Bengal and Bihar | Maithon Project of D.V.C.—20,000 kW (1st Unit). |

1958-59:

| | |
|---|---|
| 1. Bombay | (i) Sikka Thermal Station—8,000 kW.<br>(ii) Ahmedabad Thermal Station Extension—15,000 kW. (private sector). |
| 2. Madhya Pradesh | (i) Korba Thermal Station—30,000 kW (1st out of the proposed three units). |
| 3. Madras | (i) Madras City Thermal Plant Extension—30,000 kW.<br>(ii) Periyar H.E. Project—70,000 kW (Two units out of he proposed three units). |
| 4. Orissa | (i) Hirakud Project —37,500 kW. (4th unit) |
| 5. Uttar Pradesh | (i) Gorakhpur Thermal Station—5,000 kW. |
| 6. Bengal-Bihar | (i) Maithon ProjectofD.V.C of 20,000 kW. (2nd unit). |

# *CHAPTER IX*

# INDUSTRY AND MINERALS

## LARGE AND MEDIUM INDUSTRIES

India's industrial development continued to be affected by the foreign exchange stringency during 1958-59. Because of the tightening of foreign exchange restrictions difficulty was experienced in providing for the import of raw materials and capital goods to sustain the tempo of industrial production and development. Nevertheless, there was a moderate increase in industrial production. With the important exceptions of cotton texile, sugar and a few engineering and chemical products, output of most industries recorded expansion in varying degrees. The year was also characterised by further enlargement in industrial capacity, establishment of new lines of production and the commencement of important new projects both in the public and private sectors.

### INCREASE IN INDUSTRIAL PRODUCTION

The index of industrial production (base 1951–100) advanced to 139·7 in 1958 from 137·3 and 132·6 in 1957 and 1956 respectively. The rate of increase was 1·5 per cent in 1958 as against 3·5 per cent in 1957 and 8·2 per cent in 1956. The following statement gives the indices of industrial production for selected major groups.

*Index of Industrial Production*

(Base 1951=100)

| Items | 1955 | 1956 | 1957 | 1958 |
|---|---|---|---|---|
| 1. Manufacture of textiles | 113·6 | 119·9 | 116·8 | 112·6 |
| (i) Cotton textile | 111·9 | 117·5 | 115·6 | 108·9 |
| (ii) Jute textile | 118·9 | 127·3 | 120·5 | 123·9 |
| 2. Basic Metal Industries | 112·6 | 117·1 | 119·5 | 121·1 |
| (i) Iron and Steel | 113·3 | 119·4 | 119·3 | 119·1 |
| (ii) Non-Ferrous Metals | 123·7 | 124·7 | 151·7 | 166·5 |
| 3. Manufacture of Metal Products | 202·4 | 223·3 | 225·2 | 214·4 |
| 4. Manufacture of Machinery except Electrical Machines | 163·9 | 215·0 | 296·2 | 364·4 |
| 5. Manufacture of Electrical Machinery | 157·8 | 210·3 | 246·7 | 274·2 |
| 6. Manufacture of Transport Equipment | 129·3 | 178·7 | 186·6 | 173·7 |
| 7. Manufacture of Non-Metallic Mineral Products except Products of Petroleum and Coal | 134·8 | 153·1 | 173·7 | 197·0 |
| 8. Manufacture of Chemicals and Chemical Products | 159·0 | 171·1 | 181·3 | 206·2 |
| 9. Manufacture of Paper and Paper Products | 140·2 | 146·6 | 159·3 | 191·8 |
| 10. Manufacture of Leather and Leather Products except Footwear | 89·5 | 93·9 | 93·8 | 106·3 |
| 11. Manufacture of Rubber Products | 140·2 | 151·6 | 165·5 | 181·3 |
| GENERAL INDEX | 122·4 | 132·6 | 137·3 | 139·7 |

As cotton textile and sugar together account for a weight of about 40 per cent in the general index of industrial production, the decline in cotton textile and sugar production had affected the general index significantly. Furthermore, the index of industrial production does not reflect the full growth of industrial production in the country as it does not take into account the output of the engineering and chemical industries which were established after 1951.

While the tempo of industrial production as a whole had slowed down in 1958, that of producer and capital goods industries continued to be relatively high. Engineering and chemical industries in particular made rapid progress. Amongst individual industries noteworthy progress was recorded by industries, such as, machine tools, sewing machines, power driven pumps, electric motors, electric fans, bicycles, sulphuric acid, caustic soda, paper and paper board and tyres and tubes. As in the preceding year many industrial goods were manufactured in the country for the first time.

## EXPANSION OF PRODUCTIVE CAPACITY AND ITS UTILISATION

To judge the progress of industrial development in an underdeveloped country on the road to planned development, the expansion of its industrial potential would be a better measure of growth tendencies than the current level of output. Judging progress in terms of productive capacity we get a more satisfactory picture of progress in the industrial field during the period under review. It will be seen from the Appendix Table, giving data on installed capacity of the principal industries in the country, that the plan targets of capacity were either achieved or close to being achieved in a number of industries, such as, those engaged in the manufacture of bicycles, electric fans, electric lamps, sewing machines, dry batteries, storage batteries and radio receivers. Installed capacity for the production of ferro-manganese, structural fabrication, coated abrasive, grinding wheels, electric transformers, electric motors, sulphuric acid, soda ash, caustic soda, penicillin, D.D.T., liquid glucose, glucose powder, automobile and bicycle tyres, cement, refractories and staple fabrics had also expanded satisfactorily.

Examination of the growth of industrial capacity *vis-a-vis* actual production reveals that, generally speaking, industrial production had increased with expansion in the installed capacity. A fuller utilisation of capacity was, however, not possible in some industries owing to shortages of raw materials, such as, steel, pig iron, and hard coke. Noticeable increase in the utilisation of productive capacity was observed for example in the case of electric transformers, electric motors, radio receivers, power driven pumps, super phosphate and penicillin. In the case of caustic soda, sugar, and coated abrasive, utilisation of the increased productive capacity was on the other hand, less than the increase in capacity. In industries like automobiles, ball and roller bearings, A.C.S.R. conductors and electric fans, though productive capacity remained static, there was appreciable increase in production because of the better utilisation of productive capacity.

## INDUSTRIAL DEVELOPMENT IN THE PUBLIC SECTOR

Industrial Policy Resolution of 1956 reiterated the responsibility of the Government for developing basic industries. This implied expanding existing basic industries and filling up the gaps in the industrial structure. Accordingly, the second plan gave priority to the increased production of iron and steel and of heavy chemical, including nitrogenous fertilisers, development of heavy engineering and machine building industries, expansion of capacity in respect of other development commodities and producer goods, such as, aluminium, cement, chemical pulp, dyestuffs, phosphatic fertilisers and of essential drugs. Progress of basic industries in the public sector is reviewed in this section.

### Hindustan Steel

To augment the steel capacity in the country, three steel projects are being set up in the public sector, each with a production capacity of one million ingot tons of steel. The project at Rourkela is being implemented under an agreement with the German firm of Krupp and Demag. The Bhilai project is being similarly executed under an agreement with the U.S.S.R. and the construction of the Durgapur plant is under contract with a consortium of British firms. The three projects were brought under the unified management of the Hindustan Steel Limited in 1957.

By the end of 1958-59, construction work of each of the projects had reached an advanced stage and two of the plants had commenced initial production. Progress of each project is described briefly in the following paragraphs.

*Rourkela Steel Project.*—The year 1958-59 marked the beginning of production in the Rourkela Steel Plant. The steady arrival of plant and equipment at the project site and the increased tempo of construction helped in the commissioning of the first coke oven battery and blast furnace in February 1959 and good progress was made in the construction of the remaining parts of the plant.

*Bhilai Steel Project.*—The pace of construction in the Bhilai Steel Project gained momentum during 1958-59. The construction of the first blast furnace, the first coke oven battery, the power and blower plant, the structural shops, the machine shops, a small oxygen plant and workshop required for the technical training institute were completed and production of pig iron commenced in February, 1959.

*Durgapur Steel Project.*—Most of the concrete and refractory brick work in the first coke oven battery in the Durgapur Steel Project was completed. Work on the bye-product plant also advanced considerably. The entire foundation work for the three blast furnaces, as well as the hot blast stove, had been completed. Mechanical erection work on the first blast furnace neared completion.

### Hindustan Machine Tools

The factory went into production in May 1956. By 1957-58 production had reached 402 machines as against the plan target of 400 machines. In view of the factory's increased capacity under multiple shift, production was further diversified and the target for 1958-59 raised to 600 machines. The actual production in 1958-59 was 552 machines. Further expansion in production was envisaged and an output of 800 to 1,000 machines was expected to be reached by 1960-61. The factory currently accounts for about 60 per cent. of the entire production of machine tools in India. Plans were underway to further diversify production so that more items of basic machine tools, such as, grinding machines and turret lathes could be manufactured in the near future domestically to enable the country to achieve self-sufficiency in a wide-range of machine tools. An agreement was signed with Messrs Hermann Kolb of Koeln, West Germany in June, 1958 for the manufacture of 10 types of Radial Drills in 1½″ and 2½″ size. The first batch of fifty Radial Drills were completed during the year. Besides the increase in the rate of production, there was a progressive reduction in the selling price of machine tools.

### Heavy Engineering

A Heavy Engineering Corporation was set up in December, 1958 for the administration of Heavy Engineering and allied projects to be taken up in the public sector. The authorized capital of the company is Rs. 500 million of which Rs. 100 million has been issued and Rs. 5 million paid up.

The following projects are being undertaken:

(i) a heavy machine building plant is being established at Hatia near Ranchi with Soviet assistance by utilising part of the 500 million rouble credit made available to India by U.S.S.R. The plant will turn out 45,000 tons of finished machinery items per annum in its first stage, 80,000 tons in the second stage and ultimately 165,000 tons annually. The plant will undertake the production of machinery and equipment for iron and steel, mining, oil, coal and cement industries, and will execute orders for heavy equipment such as coke oven and bye-product equipment, excavators, cranes, heavy oil drilling rigs, equipment for crushing and grinding, mining and press forging and also miscellaneous heavy machinery parts and assemblies and other ancillary items.

(ii) a coal mining machinery plant at Durgapur in collaboration with Techno-Export, Moscow. The plant will have a capacity of 30,000 tons of coal mining machinery and spare parts per annum including cutters, leaders, conveyors, locomotives, haulages, electric winders, main axial fans, booster fans, pumps, ball mills, sand pump, automatic cage keeps, safety detaching hooks and spare parts. In addition the plant will be capable of producing and supplying to other enterprises about 1,800 tons per annum of steel and iron castings, forgings and stampings.

(iii) a foundry/forge plant at Ranchi in technical collaboration with Techno-Exports, Czechoslovakia, with a capacity of 69,000 tons of different types of castings and forgings in the first stage and 131,000 tons in the second stage. The plant will serve as a metallurgical base to the heavy machine building plant. There is also a provision in the contract for the establishment of a machine shop for machining steel mill rolls of various descriptions and sizes with an annual output of 10,000 tons.

### Heavy Electrical Project

With the steady increase in the number of power projects in the country, the need for equipment for generation, transmission and distribution of power has considerably expanded. Besides, such equipment is also required by the growing number of major industrial undertakings. To supplement the existing capacity of the private sector in the higher ranges and to conserve foreign exchange resources, it was decided to establish a factory in the public sector ~~at Bhopal~~ with British technical collaboration for making heavy electrical equipment including transformers, switch gears, motors, generators and hydraulic turbines. On the completion of the existing programme the annual output will be of the value of about Rs. 125 million.

Construction of the Project which had to be phased in three stages due to foreign exchange difficulties has been speeded up. The factory will go into initial production in 1960-61. The expansion of the factory to double its output to Rs. 25 crores has recently been approved.

### Hindustan Cables

The factory set-up in 1954 to manufacture telephone cables, achieved an output of 655 miles of cables valued at Rs. 102 lakhs in 1958-59. Plans were underway to step up production by adopting multiple shifts and by expanding the plant in order to meet the full annual requirements of the Posts and Telegraphs Department estimated at 1,300 miles of cables.

The manufacture of coaxial cables is also being undertaken to meet the requirements for linking the major cities of India by an underground net work of telephone cables. Additional installations at an estimated cost of Rs. 8·2 million are expected to be completed soon. The manufacture of 300 miles of underground coaxial cables is contemplated.

### Sindri and Nangal Fertilisers

During the year under review two fertiliser projects were under execution in the public sector *viz.*, expansion of the Sindri Factory which went into production in 1951 and the Nangal Plan under construction.

Sindri's capacity now average over 3,30,000 tons of ammonium sulphate per year. The production in 1958-59 was 3,30,122 tons. In addition, other products, such as, ammonia, raw and converted gas, coke, coal tar, benzene toluene were also produced in substantial quantities. The expansion programme for the manufacture of ammonium nitrate and urea from coke oven gas was completed. This would raise the present capacity in terms of nitrogenous fertilisers by over 60 per cent.

The construction of the fertiliser-*cum*-heavy water plant at Nangal was proceeding satisfactorily. The factory is expected to be put into commission in the second half of 1960. When in full production, it will produce 3,68,000 tons of fertilisers a year, equivalent to 80,000 tons of nitrogen. The production of heavy water, to be used as a moderator in atomic reactors, will be simultaneously undertaken.

### Hindustan Antibiotics

The factory went into production in 1955. It was originally planned to produce 3·6 million mega units of finished penicillin to be raised further by 9 million mega units per year. Improved techniques of manufacture enabled the factory to increase its productive capacity. Production in 1956-57 was 9·89 million mega units; it increased to 21·43 million mega units in 1957-58 and to 29·03 million mega units in 1958-59. The installed capacity of the plant is being expanded to 40 million mega units per year. On completion, the factory will rank amongst the worlds' largest producers. It is also proposed to manufacture streptomycin and di-hydrostreptomycin by 1961. Production of 40,000 to 45,000 kgs of streptomycin salts per year, including di-hydrostreptomycin, is envisaged.

### Hindustan Insecticides

To meet the country's requirements of DDT for combating malaria, a second factory with an annual capacity of 1,400 tons of technical DDT was established in the public sector at Alwaye, Kerala State at a cost of about Rs. 93 lakhs. The factory, wholly financed by Government, was constructed in record time and went into production in April 1958. The target of full production was reached in October 1958.

The DDT factory at Delhi, set up in 1955 with the assistance of WHO and UNICEF, doubled its productive capacity under the expansion programme initiated in 1955-56. In 1958-59, the factory produced 1,268 tons of technical DDT.

The market for the intermediate chloral and bye-products orthodichlorobenzene and para-dichlorobenzene had been developed. Experimental work on 75 per cent wettable powder was also undertaken, but large scale production had to be curtailed because of the high foreign exchange difficulties. Another feature of the progress of these factories is the progressive reduction in the sale price.

### Chittaranjan Locomotives

Production has been steadily increasing at the factory since it went into production in 1950. In 1958-59, 165 locomotives had been produced. The manufacturing programme has been stabilized at 14 W.G. locomotives per month, or the equivalent of 200 average sized locomotives per year. Progressively larger part of the locomotive is being manufactured from indigenously available material. It is expected that by the end of the second plan, completely Indian-made locomotives will be manufactured at Chittaranjan. The required machinery and plant for the progressive increase of indigenous content has been ordered.

The factory is currently producing W. G. locomotives, W. T. locomotives, XD boilers and WG-WP boilers types. The performance of Chittaranjan built locomotives has been uniformly good. The present cost of production, likely to come down eventually, is considerably less than the cost of imported locomotives. It is proposed to develop the manufacture of electric locomotives at Chittaranjan to meet the increasing demand for them with the introduction of electric traction on the main trunk routes.

### Integral Coach Factory

The factory was planned for the production of 350 coaches per year. In the last year of the first plan, 20 coaches had been produced. By 1958-59, production had increased to 380 coaches, thereby exceeding the plan target within three years. With the introduction of multiple shift, production is expected to go up to 750 coaches per year. A permanent furnishing unit to furnish the entire production is under construction. The production of first class coaches and class-*cum*-luggage vans has been undertaken in addition to third class coaches. It is estimated that by the end of the plan period 1,322 coaches will have been produced as against the original target of 1,173 coaches. Indigenous capacity for components is being progressively developed, and significant economy has been achieved in production costs.

**Nepa Mills**

The National Newsprint and Paper Mills Ltd., formerly an enterprise in the private sector, has been engaged in the manufacture of newsprint from indigenous bamboo chemical pulp and sabai mechanical pulp since 1956. Production at NEPA has been steadily increasing. The output increased from 13,534 tons in 1956-57 to 14,145 tons in 1957-58 and to 21,838 tons in 1958-59. The current rate of production is 70 to 75 tons per day. The existing capacity of the plant is being expanded to raise the production to 100 tons of newsprint per day. Efforts are also being made to improve the quality of the newsprint. When full production is reached, the cost of production is likely to be substantially reduced.

## INDUSTRIAL DEVELOPMENT IN THE PRIVATE SECTOR

The year under review witnessed significant increases in capacity and production in all the major industries in the private sector with the exception of cotton textiles, sugar, automobiles and ACSR and bare copper conductors. The main reasons for the fall in the production of cotton textiles were the poor domestic consumer off-take and the slump in export demand. This resulted in considerable accumulation of stocks with the mills. The position has, however, since then improved. Production of sugar declined mainly because of the shortage of cane available to the mills through diversion to gur and Khandasari units. The shortage of imported raw material and components due to restricted foreign exchange allocation accounted for the fall in the production of automobiles, ACSR and copper conductors.

A more detailed survey of the industrial development, in the different groups of industries is given in the following paragraphs.

**Metallurgical Industries**

The modernization and expansion programme of the Tata Iron and Steel Company was completed except for installation of one slab reheating furnace in the plate mill and certain minor items in the blooming mill. The construction work connected with the two million ton programme was nearly completed and trial operations were commenced.

Under the 1953 extension programme the installation of the coke oven batteries, two new blast furnaces and one Bessemer plant was completed. The expansion and modernization of the ore mines at Gua for obtaining the additional requirements of iron ore was completed. Under the 1955 extension programme foundation work for billet mill and 34" mill neared completion and other foundation works at site proceeded according to schedule.

The manufacture of steel castings showed commendable progress, production being 28,072 tons in 1958 as against the installed capacity of 38,600 tons in respect of 15 existing firms. The demand for steel castings and steel forgings in the country is estimated to go upto 72,000 tons per annum by 1960-61. A total capacity of 81,220 tons per annum, including the existing capacity, has been planned.

The production of foundry grade pig iron during the year 1958 was 431,593 tons against 294,511 tons in 1957.

Amongst non-ferrous metals, the production of aluminium, lead and antimony recorded a rise over the level obtained in 1957. In the case of aluminium, the working of both the units at more than the capacity level made it possible to achieve a production of 8,181 tons in 1958 (9·9 thousand tons in 1958-59).

The country's requirements of copper and lead are estimated to be about 50,000 tons and 16 to 18 thousand tons per annum respectively. The indigenous production of copper by the only unit in the country is about 8,000 tons fire-refined copper and it has not been possible to expand the capacity further in the absence of known deposits of copper ore to sustain additional production.

The production of lead during the year was only 3,334 tons as against the capacity of 6,000 tons. The existing firm, the only manufacturer, has plans to increase its ore dressing capacity at its mines to enable it to produce by 1960-61 enough lead concentrate to feed the smelters.

## Engineering Industries

The output of engineering industries during the year under review registered appreciable rise out-stripping the installed capacity in a number of cases, such as, bicycles, ball bearings, boats and crafts, machine screws, sewing machines, welding electrodes, diesel engines (stationary), fuel injection equipment, winding wires, electric motors, electrical steel sheets, house service meters, storage batteries, flourescent tubes, conduit pipes, wood screws, and aluminium conductors, although the last three industries registered a slight fall when compared with the output in 1957. There was a steady to upward trend of production in the case of bolts, nuts and rivets, razor blades, railway wagons, typewriters, locomotive boilers, pistons, dry batteries, radios, belting, clock, duplicators, steel structurals, wire ropes, industrial machinery, coated abrasives, milling cutters, reamers, motor cycles and diesel engines (vehicular type), power driven pumps, and electric fans. Industries whose production rose by more than 50 per cent were ball-bearings, shafting, agricultural and chemical machinery, industrial boilers, machine tools, gaskets, diesel engines (stationary), room air conditioners, water meters, boats and crafts, hosiery knitting needles, zip fasteners, hack-saw blades, bandsaw blades, tungsten carbide and domestic refrigerators.

Industries whose production rose due to increase in capacity as a result of the completion of the expansion schemes of the existing units or coming into production of additional units were clocks, laminated leaf springs, electric fans, machine tools, room air conditioners, water meters, zip fasteners, winding wires, domestic refrigerators and sewing machines.

Fall in production occurred in the case of a few industries. The decline in the output of hypodermic needles was specially marked being lower by more than 50 per cent. Other industries which recorded a short-fall were agricultural implements, building hardware, expanded metals, hurricane lanterns, oil pressure lamps, electric lamps, road rollers, steel furniture, railway wagons, transformers, radiators, tyre inflators, jacks, grinding wheels, twist drills, automobiles, scooters and three wheelers, aluminium conductors and bare copper conductors.

On account of the inadequate availability of imported copper, the bare copper conductor industry suffered a setback. In the case of ACSR and aluminium conductors, difficulties were experienced duc to shortage of high tensile galvanised steel wire which could not be imported to the full extent of requirements due to the shortage of foreign exchange. In the case of grinding wheels and twist drills the demand was linked by the quantity of steel available for processing. The general shortage of steel, therefore, led to low offtake in these industries. Similarly, the output of automobile industry, including scooters, showed a decline due to restrictions in the release of foreign exchange for the import of components. The drop in the production of cars and commercial vehicles was also partly due to labour strike in one of the firms. The reduced output of radiators was related to the fall in the production of motor vehicles. Inadequate supply of M.S. wire sheets and steel sections from indigenous sources led to the fall in the production of wood screws, expanded metal, building hardware. steel furniture etc. In the case of hurricane lanterns and oil pressure lamps there was. in addition to the limited availability of tin plates, a fall in demand due to increased electrification in the country. Production in one of the major units engaged in the manufacture of electric lamps remained suspended during the year due to financial troubles. The output of power transformers decreased mainly due to a short-fall in demand resulting from adjustments made in the implementation of power projects during the Second Plan.

As overall assessment for the year, it can be concluded that in spite of the shortage of supply of raw materials and foreign exchange difficulties, engineering industries, as a whole, had a good record of progress.

In *Heavy Mechanical Engineering Industries* which produce steel structurals, rolling stocks, boats and crafts, steel chains, pipes and tubes and agricultural implements, production registered a substantial increase in comparison with the production in 1957.

The initial target for structural industry for the second plan period was 2:5 lakh tons per annum, excluding railway wagons. This related mainly to general structurals. As considerable demand was visualised for specialised structural works like cranes, pylons, bridges, transmissions, storage tanks etc., the target was subsequently raised to 4·5 lakh tons per annum. Schemes were licensed or approved for a total capacity of 4·47 lakh tons per annum.

In the *Light Mechanical Engineering Industries* the level of production during the year under review was considerably higher in the case of sewing machines, bicycles, ball bearings, zip fasteners, hosiery needles, clocks, machine screws, belting and crown corks. In the case of certain items like hurricane lanterns, incandescent lamps, wood screws, steel furniture, the production, however, declined mainly because of inadequate allotment of raw materials, specially iron and steel.

*Electrical Engineering Industries* had also recorded considerable progress during the year; as a result of expansion of existing units and establishment of new units. The industries which achieved higher production were electric motors, winding wires, electric fans, domestic refrigerators, water meters and air conditioners. In the case of electric fans production exceeded the original target of 600,000 fans, the revised target is 900,000 fans. The production of electric lamps and aluminium conductors, however, decreased during the year. This was attributed to the closure of one of the major units in Bombay and short supply of gas (fuel) to lamp factories in Calcutta area in the case of the lamp industry and inadequate supply of high tensile galvanised steel wire in the case of aluminium conductors.

The basic industries, like *Machine Tools, Small Tools and Hand Tools* registered a significant increase in output. In the case of machine tools including accessories, the production went up to Rs. 3·55 crores in 1958 as against Rs. 2·51 crores during 1957. The revised target was Rs. 5 crores worth of machine tools. Hindustan Machine Tools had mainly contributed to this increase. They were also able to substantially bring down their prices for lathes.

There was a noticeable fall in the production of *Automobiles and Ancillary Industries.* The production of cars and commercial vehicles in 1958 was 26,788 as against 33,058 of 1957. This was partly because of the strike in one of the factories and partly because of the inadequate allocation of foreign exchange. Production of motor cycles registered an increase but that of scooters and auto-rickshaws declined sharply. This was also due to inadequate provision of foreign exchange. The ancillary industries, however, continued to maintain the upward trend in production. In 1958 the output valued at Rs. 5·06 crores against Rs. 3·17 crores in 1957.

In the *Industrial Machinery Group* which consists of industries manufacturing boilers, conveyers, printing machinery and mining machinery, and machinery such as, required for the processing of goods like cement, sugar, jute, textiles, glass; tea, paints and varnishes, oil, and power alcohol there was marked progress during the year under review.

## Chemical and Allied Industries

Most of the chemical industries recorded satisfactory progress during the year under review. The index of production for chemicals and chemical products was 205·3 in 1958 as against 181·3 in 1957, 171·1 in 1956 and 159.0 in 1955 (1951—100). The industries which doubled their output during the year were activated carbon, calcium carbonate, ethyl chloride, sodiumiodide, phosphoric acid, sodium hexameta phosphate, liver extracts (Oral), D.D.T., alkaloid harmones, ink blue, mathylene, and optical bleaching agents. Among the items which showed an upward trend in production mention may be made of alum, ammonium sulphate, bleaching powder, ammonium chloride, calcium carbide, caustic soda, hydrogen peroxide, sodium sulphide, sulphuric acid, superphosphate, carbon-di-oxide gas, antibiotics, vat colours, benzene, paints and varnishes and zinc oxide. Due to the general shortage of foreign exchange however, production plans of certain chemicals were delayed.

Similarly, there was an overall increase in the production of essential drugs in the country, the emphasis having shifted from formulation activity to basic manufacture. Several firms who were hitherto engaged in processing drugs and producing finished consumer drugs took up the basic manufacture of such items by utilising their installed capacity or by effecting a substantial expansion in their basic manufacturing programme.

The chemical industries in which decline in the production took place due to limited availability of foreign exchange were not as many as in the case of engineering industries. When the five units for the production of drugs in collaboration with the USSR and the Central Intermediates Plant under the NIDC are established together with the expansion schemes of existing manufacturers, it is expected that the increasing demands for basic bulk drugs and raw materials would be almost fully met from domestic sources.

**Other Industries**

The *cotton textile* industry was amongst the important few industries, which recorded a decline in production. Production of cotton yarn which had increased from 1671 million lbs. in 1956 to 1780 million lbs. in 1957 declined to 1683 million lbs in 1958. Similarly, production of cotton cloth which had risen to 5317 million yards in 1957 from 5307 million yards in 1956, declined to 4923·5 million yards in 1958. Fall in the level of domestic consumer off-take and in export demand resulting in the accumulation of stock with mills, was the main reason for the set-back in production. In order to give relief to the industry, the excise duty on all categories of cotton cloth was substantially reduced. The National Industrial Development Corporation also sanctioned loans amounting to Rs. 2·35 crores to the industry in 1958 for the implementation of its rehabilitation programme.

As in the case of cotton textiles, the production of *sugar* also declined in 1958. Sugar production which had increased from 18·54 lakh tons in 1956 to 20·29 lakh tons in 1957 declined to 19·78 lakh tons in 1958. Shortage of cane available to mills was the main reason for the decline in production in 1958.

The progress of the *cement* industry has been satisfactory in recent years. As against the installed capacity of 5·7 million tons in 1956 and 6·34 million tons in 1957, the capacity of the industry rose to 7·06 million tons in 1958. The increase in the capacity during the year was partly due to the implementation of two schemes one for the establishment of a new undertaking in Andhra Pradesh and the other of substantial expansion in Punjab. Commensurate with increase in capacity, production of cement also registered substantial increase having risen from 4·9 million tons in 1956 to 5·6 million tons in 1957 and 6·07 million tons in 1958. During the year white cement was manufactured for the first time in the country. Experiments on the manufacture of rapid hardening cement required for drilling operations was taken up and, one of the indigenous firms had found it possible to manufacture it as per specifications of the Oil and Natural Gas Commission.

The growth of *refractories* also recorded marked progress. Productive capacity increased from 4·44 lakh tons in 1956 and 4·64 lakh tons in 1957 to 5·79 lakh tons in 1958. Production likewise increased to 4·35 lakh tons during 1958 as against 3·2 lakh tons in 1956 and 3·7 lakh tons in 1957. The spurt in production was the result of unprecedented increase in demand occasioned by the installation of new steel plants. The industry was able to utilise a considerable portion of its idle capacity.

In the *glass industry*, the installed capacity rose from 2·95 lakh tons in 1957 to 3·51 lakh tons during 1958 and is expected to increase to 3·57 lakh tons on the implementation of all the schemes so far sanctioned. During the year the increase in capacity was due to the implementation of the three schemes in the automatic sector. Production increased by more than 13 per cent during the year; the increase being more pronounced in the fields of sheet glass, thermos flasks, and bottle-ware. There was also a marked increase in the production of laminated safety glass and synthetic stones. Production of laminated safety glass, which is being extended into the field of wired safety glass, reached the optimum limit of 70,000 sq. ft. The technical survey of the glass industry initiated in early 1957 was completed.

The *rubber manufacturing* industry in India had made rapid strides in recent years. An upward trend was noticeable in the major items of manufacture, excepting in the case of ebonite, radiator and vaccum brake, rubber components of railway fittings, tractor tyres and tubes in which the decrease in production is accounted mainly by fluctuations in demand. The two units engaged in the manufacture of automobile tyres and tubes worked to approximately 90 per cent of their capacity. Production of 8·26 million bicycle tyres during the year exceeded the installed capacity of 7·23 million tyres. An additional capacity of 10 million tyres per year was licensed to bridge the gap between indigenous production and the demand estimated to be of the order of 16·6 million tyres per year by the end of second plan. Production of bicyle tubes was commensurate with the rise in demand. Production of rubber footwear during 1958 was 36·7 million pairs representing 75 per cent of the existing capacity. With the creation of additional capacity of 3·93 million pairs it was expected that the target of 50 million pairs would be achieved by 1961.

The production of *paper and paper boards* at 253,000 tons in 1958 represented an increase of about 43,000 tons over 1957. On the basis of the progress made on the schemes already approved it is expected that by 1960-61, a capacity of 363,500 tons would materialise—56,500 tons short of the plan target. One of the reasons for the shortfall has been the difficulties by the industry in arranging suitable terms of payments for import of plant and machinery.

Because of the drastic cut in the quota for import of paper, it became desirable to arrange for the manufacture of specialised types of imported grades of paper locally. For this purpose imports of suitable raw materials was allowed. While high-class poster paper, bank paper, bond paper, off-set paper were already being manufactured in the country, the production of brush coated art paper, and press-pahn paper was undertaken during the year. Besides diversifying the qualities of vulcanised fibre sheets, the manufacture of vulcanised fibre rods and tubes and also seamless cards and silver cans was also started during the year.

## GROWTH OF INDUSTRIAL INVESTMENT

### Plan Outlay and Expenditure (Public Sector)

After an initial slow start, the tempo of expenditure on industrial development in the Public sector picked up rapidly. By the end of 1958-59, a total expenditure of Rs. 455 crores had been incurred, being about two-thirds of the revised plan outlay. It is anticipated that the entire plan outlay will be fully utilised by the end of the plan period. Progress of expenditure since 1956-57 is given below:—

(Rs. crores)

| | 1956-61 | | Progress of Expenditure on Large and Medium Industries | | | |
|---|---|---|---|---|---|---|
| | Original | Revised | 1956-57 | 1957-58 | 1958-59 | 1956-59 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Centre . . . | 596·00 | 692·00 | 47 47 | 177·95 | 223·03 | 448·45 |
| States/Territories . | 21·22 | 13·00 | 2·33 | 2·14 | 2·16 | 6·63 |
| TOTAL . | 617·00 | 705·00 | 49·80 | 180·09 | 225·19 | 455·08 |

Includes outlay on account of

(1) Steel Projects (2) Large and Medium Industries under the Ministry of Commerce and Industry (3) Industrial Finance Corporation and Security Paper Mill and (4) C.S.I.R., Assistance to Scientific Institutions, Vigyan Mandirs, National Atlas, Zoological Survey, Botanical Survey and Survey of India.

### Investment in the Private Sector

It has been estimated that the gross fixed capital investment in the organised manufacturing industries in the private sector during the two year period 1956-57 and 1957-58 amounted to Rs. 370 crores. The corresponding investment during 1958-59, is estimated at Rs. 193 crores.

Major investments during the year took place in the iron and steel industry followed by cotton textiles, sugar, engineering, chemicals, cement and paper. There was also substantial new investment in the petroleum refining industry.

Total direct Central and State Government loans and participation in the share capital of private industrial undertakings, amounted to Rs. 1·3 crores in 1958-59 as against Rs. 3·2 crores in 1957-58, and Rs. 7·7 crores in 1956-57. The aggregate assistance in three years thus amounted to Rs. 12·2 crores as against Rs. 20 crores envisaged for the entire second plan period.

The loans sanctioned by the institutional agencies, such as, the Industrial Finance Corporation of India, the State Finance Corporations, the Industrial Credit and Investment Corporation and the Refinance Corporation in 1958-59 were also somewhat lower than in the previous year.

The total amount of loans sanctioned by the I.F.C. during the year ended June, 1959 amounted to Rs. 3·79 crores in respect of 19 industrial concerns as against the total of Rs. 7·79 crores sanctioned to 22 industrial concerns during the previous year. The actual disbursement of loans during 1958-59 was lower at Rs. 7·48 crores against Rs. 8·33 and Rs. 9·78 crores during the previous two years. The I.F.C. also sanctioned applications regarding guaranteeing of deferred payments to the extent of Rs. 2·35 crores.

The amount of loans sanctioned and disbursed by the State Finance Corporations amounted to Rs. 4·99 crores and Rs. 3·33 crores respectively in 1958-59 as compared to Rs. 4·78 crores and Rs. 3·69 crores respectively in the preceding year. The total disbursement made by the State Finance Corporations during the first three years of the second plan period amounted to Rs. 9·89 crores. During 1958, the Industrial Credit and Investment Corporation approved financial assistance, in domestic and foreign currencies, amounting to a total of Rs. 3 crores of which rupee assistance in the form of loans, guarantees, underwriting of, and direct subscriptions to, share and debentures accounted for Rs. 1·57 crores and foreign currency loans for Rs. 1·43 crores. The total amount disbursed during the year amounted to Rs. 2·08 crores, including disbursement for the first time of loans in various foreign currencies amounting to Rs. 22 lakhs.

The NIDC sanctioned loans amounting to Rs. 2·35 crores to the cotton textile mills and Rs. 1·73 crores to the jute textile mills for assisting their rehabilitation and modernization programmes. The actual disbursement of loans were, however, considerably lower being Rs. 114 lakhs for cotton textile mills, and Rs. 80 lakhs for jute textile mills.

The Re-Finance Corporation for Industry which was set up in June, 1958 with a view to providing relending facilities against loans, given by banks to medium sized industrial concerns, in the private sector sanctioned a sum of Rs. 2·43 crores. Of this, only Rs. 0·20 crore was actually drawn till the end of March, 1959. The total financial assistance to private industrial units made available by Governments and institutional agencies during 1958-59 thus amounted to Rs. 16·3 crores.

There was some inflow of foreign credit/capital participation for development of industries in the private sector during the period under review. The important loans made available to the private industry included the IBRD loans amounting to Rs. 10·99 crores drawn by the Tata Iron and Steel Company and Rs. 4·62 crores drawn by the Indian Iron and Steel Company. The total direct foreign assistance which is estimated to have flown into the private industry in 1958 amounted to about Rs. 9 crores.

The rest of the funds required for financing the investment programme were mainly obtained from the internal sources such as reserves and other retained profits in industry.

## INDUSTRIAL DEVELOPMENT AND EXPORT PROMOTION

In order to finance the import of raw materials, equipment and machinery needed for the rapid economic development of the country out of the country's own resources, a concerted attempt has to be made to increase the volume of exports. As the international demand for traditional items has been on the whole declining in recent years, it is desirable that in addition to stabilising the position of traditional exports, effort should be made to expand the market for new industrial products. Though many light engineering industries have recently shown a capacity to increase their export rapidly, the share of new industrial items in the export trade of the country is as yet very small.

A major factor affecting the expansion of the export market in new lines has been the failure to create an atmosphere of product acceptance in foreign markets in the face of keen competition.

Several promotional measures were, however, taken in 1958 to remedy this situation. Manufacturers and exporters have combined with official representatives to form as many as eleven export promotion councils, and commodity boards are paying increasing attention to export markets. The Directorate General of Commercial Intelligence and Statistics has been reorganised. The State Trading Corporation has played a notable role in expanding overseas markets and the Export Risks Insurance Corporation is now helping Indian exporters to venture into new fields. Increasing attention is also being given to expand production so as to provide larger exportable surpluses of Indian goods for which demand is being built up in foreign markets.

In accordance with the export promotion policy of the Government, exporters can now obtain drawback of import duties and rebate on excise duties on a large number of goods exported. During 1958, drawback of export duty could be claimed on 50 commodities and about a dozen items received rebate on customs and excise duties combined. Similarly, export control was withdrawn in respect of over 250 commodities. Facilities were also offered for the manufacture in bond for export from imported raw materials so that the price of exported product may not be affected by the import duty. Special schemes were drawn up by the Government for supply of raw materials for exporting industries. Institutions like export promotion councils set up by the Government are also arranging to obtain marketing information from abroad and to furnish information about Indian goods for foreign importers. Goods earmarked for exports are receiving special allotment of wagon, expeditious movement of goods was also arranged and 9 commodities were offered concessional railway freights. The Export Risks Insurance Corporation was established to cover export risks.

The Reserve Bank of India introduced a scheme to enable commercial banks to offer liberal credit facilities to exporters. The National Productivity Council was set up to organise productivity training and services to industrial units with a view to enabling them to increase their productivity.

## II

## MINERALS

Initially the Second Plan made a provision of Rs. 73 crores for mineral schemes, and this was subsequently revised upwards to Rs. 143 crores. This was inclusive of a provision of Rs. 2 crores for mineral schemes of State Governments. The major portion of the provision made for Central Schemes related to the development programme for coal in the public sector, exploration and exploitation of oil and mineral surveys. The progress made so far is set out below:

### COAL

As compared with a production of 38 million tons in 1955, the Second Plan set a target of 60 million tons for coal which meant stepping up production by 22 million tons. Of this additional production, 12 million tons were allocated to the public sector—10·5 million tons to be raised by the National Coal Development Corporation (0·5 million tons from existing State collieries and 10 million tons by establishing new mines) and 1·5 million tons by the expansion of the Singareni collieries—and 10 million tons to the private sector. The trend of coal production since 1955 is given below:

| | (million tons) |
|---|---|
| 1955 | 38·22 |
| 1956 | 39·43 |
| 1957 | 43·50 |
| 1958 | 45·34 |

During the first three years of the Plan period, the additional production amounted to a little over 7 million tons. Production would probably have been higher in 1956 and 1957 but for a prolonged strike in the Raniganj coal field in 1956 and heavy rains which dislocated the industry during the latter part of the same year. Shortage of wagons and difficulties in regard to foreign exchange also contributed in some measure in reducing output.

In the public sector, while the additional production envisaged from existing State collieries has been achieved in full, the production envisaged from new collieries will begin to fructify in a large measure only during the later stages of the plan period. During the period under review, attention was focussed mainly on the acquisition of virgin areas and unworked areas of coal leases, prospecting these areas with a view to preparing plans for their development. Apart from expanding production in the existing collieries, new developments were initiated in the Bhurkunda and Kurasia collieries and new collieries were established at Korba, Kathara and Saunda, which started producing in a small way. Production from Singareni collieries also registered substantial increase. Steps were also taken to establish training schools for the training of technical personnel required for the public sector programme.

In view of the increasing importance of the public sector in coal, a new organisation—the National Coal Development Corporation—was set up in September, 1956. This was charged with the responsibility of administering the existing State collieries and opening and administering the new collieries to be established by the public sector.

### Washeries

Of the four washeries envisaged in the Second Plan, the washery at Kargali, which is to supply washed coal to Rourkela and Bhilai steel plants, went into production in November 1958. It will be sometime before this washery can be expected to start producing to its full capacity.

## OIL

Initially a provision of Rs. 11·5 crores was made for oil exploration. Subsequently as a result of the experience gathered and with the striking of oil in Cambay area, the provision for Government exploration was raised to Rs. 30·07 crores. The programme envisaged detailed geological and geophysical surveys and exploratory drilling of promising sites. With the limited equipment available, the Oil and Natural Gas Commission undertook intensive geological and geophysical surveys in parts of Punjab, Ganga valley and Cambay and started exploratory drilling in Jwalamukhi, Hoshiarpur and Cambay. The exploration work at Cambay was successful in striking oil in both the wells that were drilled during the period. To assess the commercial potentialities of this oil find a programme of intensive drilling was drawn up and agreements were concluded with Rumania and U.S.S.R. for the purchase of equipment and for obtaining the services of technical personnel required for carrying out these investigations. The progress of expenditure during the first three years is indicated below:

| | (Rs. crores) |
|---|---|
| 1956-57 | 0·80 |
| 1957-58 | 2·05 |
| 1958-59 | 2·78 |

The slow progress in expenditure is attributed to delay in getting certain essential types of equipment and obtaining services of technical personnel.

Work on the Indo-Stanvac Petroleum Project (a joint venture by the Standard Vacuum Oil Company and the Government of India) in the West Bengal basin was continued. So far 7 wells have been drilled, but none of them has struck oil.

### Oil Production and Refining

A Rupee Company—Oil India Limited—a joint venture of Burmah Oil Company with the Government of India—was established to undertake exploration and exploitation of the oil reserves proved in the Nahorkatiya—Hugrijan—Moran area of Assam. This company in addition to exploiting oil has also to construct a pipeline from the oil-fields to supply the two Government Refineries proposed to be set up at Nunmati (0·75 million tons capacity) and Barauni (2 million tons capacity). The refineries are expected to be commissioned in April 1961 and April 1962 respectively.

The Caltex Oil Refinery at Vishakapatnam was completed and it went into production in December 1957.

## OTHER MINERALS

Detailed investigation of mineral resources by the Geological Survey of India and the Indian Bureau of Mines continued and the expansion of these two Departments was also being implemented. Among the more important mineral investigations undertaken by these two Departments, mention may be made of the following:—

(a) Regional and detailed prospecting of coal in Singrauli and Kotah coal fields (Uttar Pradesh), Karanpura and Bokaro coal fields (Bihar), Korba, Chirimiri and Bisrampur coalfields (Madhya Pradesh);

(b) Exploratory drilling for coal in Jharia and Raniganj and Garo Hills coal fields;

(c) Drilling of lignite in Warkala (Kerala);

(d) Detailed prospecting for copper at Khetri and Daribo (Rajasthan), Singbhum (Bihar) and Almora (Uttar Pradesh);

(e) Detailed prospecting for pyrites at Amjor (Bihar) and Chittaldrug (Mysore);

(f) Detailed prospecting of iron ore at Kiriburu (Orissa);

(g) Detailed prospecting for magnesite in Almora (Uttar Pradesh); and

(h) Detailed mapping of manganese ore deposits in Andhra Pradesh and Madhya Pradesh.

Exploration and expansion of the Kolar Gold Mines and Hutti Gold mines were also continued.

## APPENDIX

*Installed Capacity and Production of Selected Industries—Targets and Achievements*

| Sl. No. | Industry | Unit | First Plan (1951-56) 1950-51 Installed capacity | Production | 1955-56 Installed capacity | Production | Second Plan (1956-61) Target 1960-61 Installed capacity | Production | Progress of production 1956-57 | 1957-58 | 1958-59 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
| | *Metallurgical Industries* | | | | | | | | | | |
| 1 | Finished steel . . . | '000 tons | 1015 | 1030 | 1300 | 1276 | 4700 | 4300 | 1347 | 1341 | 1333 |
| 2 | Ferro - manganese . . | '000 tons | 28·0 | .. | .. | .. | 171·8 | 160·0 | 1·5 | 7·3 | 44·0 |
| 3 | Aluminium . . . | '000 tons | 4·0 | 3·7 | 7·5 | 7·3 | 30·0 | 25·0 | 6·7 | 7·9 | 9·9 |
| | *Mechanical Engineering Industries Industrial machinery* . . | | | | | | | | | | |
| 4 | Carding engines . . . | Nos. | 600 | .. | 792 | 618 | .. | .. | 776 | 1134 | 1057 |
| 5 | Spinning ring frames. . . | Nos. | 396 | 260 | 1596 | 908 | .. | .. | 1264 | 1234 | 929 |
| 6 | Calico looms . . . . | Nos. | 3600 | 1894 | 4980 | 2765 | .. | .. | 3225 | 2654 | 3488 |
| 7 | Jute textile machinery (*b*) . | Rs. crores | .. | .. | .. | 0·12 | .. | 2·5 | 0·30 | 1·06 | 1·15 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | Cement machinery (*b*) | Rs. crores | .. | .. | .. | 0·34 | .. | 2·0 | 0·42 | 0·62 | 0·62 |
| 9 | Sugar machinery (*b*) | Rs. crores | .. | .. | .. | 0·19 | .. | 2·5 | 0·32 | 1·62 | 1·91 |
| 10 | Paper machinery (*b*) | Rs. crores | .. | .. | .. | .. | .. | 4·0 | .. | .. | .. |
| 11 | Agricultural machinery (*b*) | Rs. crores | .. | .. | .. | .. | .. | .. | 0·35 | 0·53 | 0·83 |
| 12 | Printing machinery (*b*) | Rs. crores | .. | .. | .. | .. | .. | 2·0 | .. | .. | .. |
| 13 | Structural fabrication | '000 tons | .. | .. | 126 | 90 | 450 | 450 | 90·5(*c*) | 100 | .. |
| | *Railway rolling stock* | | | | | | | | | | |
| 14 | Locomotives | Nos. | .. | 7(*a*) | .. | 179 | 400 | 400 | 223 | 249 | 268 |
| 15 | Wagons | Nos. | 6000 | 2924 | 15000(*d*) | 41966(*d*) | 25000 | 25000 | 16020(*c*) | 17348 | 11747 |
| 16 | Passenger coaches | Nos. | 850 | 479 | 1100(*d*) | 4384(*d*) | 1700 | 2300 | .. | .. | .. |
| 17 | Ship building | '000 GRT | .. | .. | .. | 13·0 | .. | 75 to 90 (*e*) | 10 | 17 | 5 |
| 18 | Automobiles (*f*) | '000 nos. | 30·0 | 16·5 | 29·0 | 25·3 | 57·0 | 57·0 | 33·9 | 30·2 | 27·2 |
| 19 | Motor cycles and scooters | '000 nos. | .. | .. | 11 | 2·2 | 11 | 11 | 6·3(*c*) | 8·4(*g*) | .. |
| 20 | Ball and roller bearings | '000 nos. | 600 | 87 | 600 | 918 | 900 | 2400 | 1040(*c*) | 1763 | 1997 |
| 21 | Power driven pumps | '000 nos. | 33 | 33 | 67·5 | 37·2 | 86·0 | 86·0 | 50·5 | 67·7 | 81·6 |
| 22 | Diesel engines | '000 nos. | .. | 5·5 | 20·0 | 10·4 | 22·0 | 20·5 | 12·4 | 19·3 | 27·6 |
| | | '000 H.P. | .. | .. | .. | .. | 220 | 205 | .. | .. | .. |
| 23 | Bicycles | '000 nos. | 120 | 102 | 760 | 513 | 695 | 1250 | 735 | 849 | 894 |
| 24 | Sewing machines | '000 nos. | 37·5 | 33·0 | 46·5 | 111·2 | 85·2 | 300·0 | 140·8 | 175·5 | 212·7 |
| 25 | Hurricane lanterns | '000 nos. | 4260 | 3242 | 5000 | 5390 | 5500 | 6000 | 5344 | 3747 | 3306 |
| 26 | Coated abrasives | '000 reams | .. | .. | 150 | 85 | 255 | 150 | 95 | 95 | 113 |

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
|---|---|---|---|---|---|---|---|---|---|---|
| 27 Grinding wheels . . . | Tons | 360 | 231 | 1520 | 738 | 2110 | 1500 | 1253 | 1348 | 1147 |
| *Electrical Engineering Industries* | | | | | | | | | | |
| 28 Electric transformers (33 KV [and below) . . . . . | '000 KVA] | 370 | 178 | 657 | 625 | 1500<br>(2200) | 1360 | 1033 | 1234 | 1099 |
| 29 Electric motors (200 HP and below). . . | '000 HP | 150 | 99 | 263 | 272 | 630<br>(1200) | 600 | 388 | 507 | 636 |
| 30 Electric cables and wires (ACSR) conductors . . . . | '000 tons. | 2·5 | 1·4 | 13·4 | 8·7 | 21·6<br>(30·0) | 18·0 | 12·3 | 15·5 | 14·6 |
| 31 Electric fans . . . . | '000 nos. | 288 | 197 | 402 | 287 | 600 | 600 | 380 | 562 | 648 |
| 32 Electric lamps (total) . . | Mn. nos. | 23·0 | 14·1 | 36·0 | 25·0 | 50·0 | 50·0 | 32·7 | 32·2 | 31·2 |
| 33 Dry batteries . . . . | Mn. nos. | 285·0 | 137·0 | 224·5 | 161·0 | 225·0 | 225·0 | 190·6 | 157·5 | 174·8 |
| 34 Storage batteries . . . | '000 nos. | 446 | 194 | 290 | 258 | 350 | 350 | 318 | 323 | 371 |
| 35 Radio receivers (organised sector) | '000 nos. | 77 | 45 | 213 | 102 | 213<br>(300) | 200<br>(225) | 156 | 195 | 197 |
| *Chemical and Allied Industry* | | | | | | | | | | |
| 36 Ammonium sulphate (in terms of fixed Nitrogen) . . . | '000 tons | 16 | 9 | 86 | 79 | 382 | 290 | 78 | 76 | 79 |
| 37 Superphosphates ($P_2O_5$) . . | '000 tons | 21 | 9 | 44 | 12 | 120 | 120 | 15 | 26 | 29 |
| 38 Sulphuric acid . . . . . | '000 tons | 150 | 104 | 242 | 164 | 500 | 470 | 167 | 206 | 237 |
| 39 Soda ash . . . . | '000 tons | 54 | 45 | 90 | 81 | 253 | 230 | 86 | 93 | 90 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 40 | Caustic soda | '000 tons | 19 | 11 | 44 | 35 | 150 | 135 | 41 | 44 | 60 |
| 41 | Sulpha drugs (*b*) | '000 Kg. | .. | .. | 337 | 84.6 | 450 | 450 | 98.7 | 105.5 | 131.5 |
| 42 | Penicillin | Mn. mega units | .. | .. | 12·5 | 6·6 | 40·0 | 40.0 | 9·9 | 21·4 | 25.2 |
| 43 | D.D.T. (Technical) | Tons | .. | .. | 700 | 284 | 2800 | 2800 | 518 | 707 | 2080 |
| 44 | Benzene hexachloride (*b*) | Tons | .. | .. | 2000 | 1603 | 2500 | 2500 | 1177 | 1836 | 3080 |
| 45 | Para amino salicylic acid (*b*) | '000 Kg. | .. | .. | 18·2 | 4·5 | 113·0 | 113·0 | 4·2 | 42·9 | 66·1 |
| 46 | Glucose liquid (*b*) | Tons | .. | .. | 13000 | 445 | 15000 | 5000 | 1047 | 3361 | 4411 |
| 47 | Glucose powder (*b*) | Tons | .. | .. | 4600 | 25 | 7700 | 2800 | 25 | 542 | 1603 |
| 48 | Synthetic moulding powder | Tons | .. | .. | 1180 | 754 | 12810 | 10600 | 1050 | 1203 | 1328 |
| 49 | Ready mixed paints, varnishes and enamels | '000 tons | 65 | 30 | 65 | 40 | 65 | 60 | 41 | 44 | 50 |
| 50 | Nitro-cellulose lacquers | '000 gals. | .. | .. | 800 | 300 | 800 | 500 | 245 | 270 (*g*) | .. |
| 51 | Soap | '000 tons | 199 | 74 | 240 | 103 | 357 | 300 | 113 | 110 | 123 |
| | *Rubber manufactures* | | | | | | | | | | |
| 52 | Tyres, automobile | '000 nos. | .. | .. | 950 | 898 | 1460 | 1460 | 958 | 984 | 1028 |
| 53 | Tyres, bicycle | Lakh nos. | .. | .. | 60 | 58 | 118 | 118 | 66 | 74 | 85 |
| 54 | Paper and paper-boards | '000 tons | 137 | 114 | 210 | 187 | 450 | 350 | 197 | 219 | 261 |
| 55 | Newsprint | '000 tons | .. | .. | 30·0 | 4·2 | 60·0 | 60·0 | 13·6 | 14·2 | 21·8 |
| 56 | Cement | lakh tons | 32·8 | 26·9 | 49·0 | 45·9 | 160.0 | 130·0 | 50·8 | 58·9 | 59·9 |
| 57 | Refractories | '000 tons | .. | 229 | 444 | 283 | 1000<br>(1250) | 800 | 328 | 388 | 452 |

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
|---|---|---|---|---|---|---|---|---|---|---|
| 58 Power alcohol | Mn. gals. | 13·0 | 4·7 | 14·9 | 10·5 | 36·0 | 30·0 | 10·1 | 10·2 | 8·6 |
| 59 Industrial alcohol (rectified spirit only) | Mn. gals. | 13·0 | 3·9 | 12·2 | 4·7 | | | 4·5 | 5·3 | 10·4 |
| *Textile industries* | | | | | | | | | | |
| 60 Cotton yarn | Mn. lbs. | 1669 | 1179 | 1840 | 1640 | 2080 | 1952 | 1723 | 17·0 | 1694 |
| 61 Cotton cloth (mill made) | Mn. yds. | 4744 | 3720 | 4950 | 5102 | 5300 | 5350 | 5421 | 5179 | 4921 |
| 62 Jute manufactures | '000 tons | 1200 | 824 | 1200 | 1054 | 1200 | 1100 | 1066 | 845 | 1052 |
| 63 Rayon filament | Mn. lbs. | 4·0 | 0·4 | 22·0 | 16·0 | 68·3<br>(100·0) | 68·0 | 20·7 | 26·5 | 34·8 |
| 64 Staple fibre | Mn. lbs. | .. | .. | 16·0 | 13·7 | 32·0 | 32·0 | 18·2 | 19·3 | 35·8 |
| 65 Woollen and worsted yarn | Mn. lbs. | .. | 18·3 | 38·0 | 21·7 | 45·5 | 27·0 | 25·8 | 29·0 | 29·0 |
| 66 Woollen fabrics | Mn. yds. | .. | .. | 48·0 | 15·0 | 50·0 | 20·0 | 15·9 | 17·2 | 17·8 |
| *Timber industries* | | | | | | | | | | |
| 67 Matches | Mn. gross boxes | 35·3 | 27·0 | 35·3 | 30·9 | 35·3 | 35·0(i) | 30·4 | 28·5 | 31·2 |
| 68 Plywood tea-chest | Mn. sq. ft. | 139·0 | 45·0 | 150·6 | 93·6 | 167·5 | 100·0 | 99·1 | 90·5 | 89·6 |
| 69 Commercial plywood | Mn. sq. ft. | | 10·5 | | 20·7 | | 30·0 to 50·0 | 27·8 | 32·0 | 37·4 |
| *Food industries* | | | | | | | | | | |
| 70 Salt | '000 mds. | .. | 72060 | .. | 84059 | .. | 100000 | 85458 | 104944 | 104899 |
| 71 Sugar (*h*) | '000 tons | 1540 | 1115 | 1740 | 1856 | 2500 | 2250 | 2007 | 2006 | .. |

|  |  |  |  |  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 72 | Vanaspati . . . . | '000 tons | 333 | 153 | 415 | 276 | 445 | 400 | 264 | 300 | 299 |
| 73 | Biscuits (*b*) . . . . | '000 tons | .. | .. | 36 | 12 | 34 | 15 | 13 | 17 | 18 |
| 74 | Confectionery (*b*) . . . | '000 tons | .. | .. | 53 | 8 | 41 | 10 | 8 | 11 | 10 |

NOTE : Figures in brackets relate to revised target.

(*a*) Figures for 1950-51 relate to Chittaranjan Locomotive Works only which started production in Nov., 1950.
(*b*) Figures are for the calendar years 1955, 1956, 1957 and 1958; the figures for 1958 are provisional.
(*c*) For 1956.
(*d*) For 1951—56.
(*e*) For 1956—61.
(*f*) Includes cars, jeeps, land rovers, station wagons, utilities, mobile health and commercial vehicles of petrol and diesel types.
(*g*) For 1957.
(*h*) Relates to crop year November to October.
(*i*) Includes decentralised sector.

# CHAPTER X

## VILLAGE AND SMALL INDUSTRIES

Against the revised plan provision of Rs. 177.3 crores the estimated expenditure during the first three years was of the order of Rs. 100.7 crores or about 57 per cent of the plan provision. Progress of expenditure under the major heads of development is given in Annexure I. It will be observed that the maximum rate of increase in expenditure was recorded in the case of traditional khadi. Actual expenditure on the handloom industry has also exceeded the budget estimates. On the other hand, expenditure on handicrafts, sericulture and coir industry has shown a smaller increase. Such data as are available regarding the physical achievements during the period under review are given in Annexure II. These also illustrate the difference in the rates of progress achieved.

The principal factors adversely affecting the tempo of progress during the first two years were: late submission of schemes by State Governments for technical examination, delay in according sanctions by the Centre, inadequate administrative machinery in most of the States, paucity of technical personnel and to some extent, delays due to reorganisation of States. To avoid delays, the procedure for according technical and administrative sanctions for States' schemes and also for release of funds were simplified by most of the All India Boards. A time schedule was laid down by the Ministry of Commerce and Industry for submission of schemes well in advance of a financial year and a few committees were also set up for scrutinising the schemes. With a view to further speeding up the implementation of the State schemes, delays in scrutiny of continuing schemes by the Centre were eliminated by introducing a new procedure under which the State Governments were allowed to sanction continuing schemes and also to make certain adjustments. The new procedure came into effect in May 1958. However, some procedural formalities in regard to certain matters like acquisition of land and construction of buildings, purchase of machinery and recruitment of technical and administrative staff were understood to have hampered the speedy implementation of the States' schemes. In regard to the Centrally sponsored schemes, particularly those relating to small scale industries, the principal factors responsible for impeding the progress were lack of proper buildings and paucity of technical and administrative staff.

Anticipating the need for providing adequate administrative staff the Centre had agreed to meet 50 per cent of the cost of the additional staff of the State Directorates of Industries. Progress in recruitment of additional staff was, however, slow during the first year mainly on account of shortage of technical personnel. The position in this respect improved in subsequent years. Expenditure incurred on strengthening States Industries Directorates increased from Rs. 2·23 lakhs in 1956-57 to Rs. 30.72 lakhs by the end of 31st December 1958.

The reappraisal of the Second Five Year Plan in May 1958 necessitated cut in the plan provision for Village and Small Industries from

Rs. 200 crores to Rs. 177 crores and consequential revision of industry-wise allocations. The original and revised industry-wise allocations are indicated below.

(Rs. crores)

| Industry | Original | Revised |
|---|---|---|
| 1. Handlooms | 36·50 | 27.03 |
| 2. Small Scale Industries | 46·00 | 44·57 |
| 3. Industrial Estates | 15·00 | 11.00 |
| 4. Handicrafts | 12·00 | 5.05 |
| 5. Sericulture | 5·00 | 4·08 |
| 6. Coir | 1·70 | 1·76 |
| 7. Village Industries | 41·80 | 17·53 |
| 8. Traditional Khadi | 19.70 | 23.66 |
| 9. Ambar Khadi<br>10. Powerlooms | 22·30 | 38.92<br>3.70 |
| TOTAL | 200·00 | 177·30 |

As a result of these cuts many important new schemes and expansion programmes had to be abandoned.

The Ministry of Commerce and Industry appointed, early in September 1957, a Working Group to review the progress of industrial cooperatives for village and small scale industries, examine the difficulties impeding the rapid progress of their formulation and recommend measures for ensuring accelerated development of industrial cooperatives. The Working Group submitted its report in July 1958. Some of the major recommendations of the Working Group relate to (i) the necessity of State partnership for promotion of cooperatives, (ii) establishment in every State of cooperative apex marketing societies for marketing the goods produced by primaries, (iii) necessity to provide finance to industrial cooperatives through institutional agencies and (iv) admission of entrepreneurs and sympathisers as members of a cooperative society subject to certain conditions. The report was under consideration of the Ministry till the end of March 1959.

The Coordination Committee for Small Scale Industries appointed a sub-committee to examine the system of Central assistance to States with a view to rationalising them to the extent possible. The sub-committee submitted its interim report in August 1958 pending clarification on certain points *viz.*, the utility and applicability of patterns of assistance in the light of the new procedure for release of Central assistance referred to earlier.

Towards the beginning of the year 1959, steps were taken to evaluate the programmes under different sub-heads of Village and Small Industries. Accordingly, by the end of 1958-59, the Ministry of Commerce and Industry appointed Evaluation Working Groups for the following industries:

1. Small-scale Industries and Industrial Estates
2. Khadi and Ambar Charkha

3. Village Industries
4. Handloom
5. Handicrafts
6. Sericulture

The main purpose of the Evaluation studies was to assess the plan achievements, with particular reference to difficulties faced and short falls recorded, so as to obtain lessons of experience for the formulation of the Third Five-Year Plan.

From Annexure I, it will be noticed that expenditure on handloom and traditional khadi was lower in 1957-58 compared with the previous year. In the handloom sector, the loans advanced as working capital to the weavers' cooperative societies for production and marketing were reduced from Rs. 2.8 crores in 1956-57 to Rs. 0.8 crore in 1957-58 and were further reduced to Re. 0·3 crore in 1958-59. This was in pursuance of the decision that the weavers' cooperative societies in various States should obtain their requirements of working capital for production and marketing from the Reserve Bank with effect from the beginning of 1957-58. In respect of a few States and most of the Union Territories in which cooperative institutions were not well established, working capital requirements, however, continued to be met from the cess fund. Further, since a disproportionately large portion of the amount sanctioned for the development of the handloom industry was utilised for rebate on sales, it was also decided that the rate of rebate be reduced from 1½ annas (2 annas in Bombay) to 6 nP in the rupee from 1st December 1957. The saving accruing as a result of the reduction in the rate of rebates was proposed to be made available for other development schemes. In the case of traditional khadi, the revised classification of expenditure as between traditional khadi and Ambar Charkha programme accounts for the variations in expenditure over the first two years. Thus, for instance, an item of Rs. 1·55 crores for purchase of cotton both for traditional and Ambar Charkha programme was shown under the traditional khadi sector for the year 1956-57. In 1957-58, however, the item was shown under Ambar Charkha programme.

In order to coordinate the programme of the Khadi and Village Industries Commission as well as the five other All India Boards (which were all brought together under the Ministry of Commerce and Industry in April, 1957) and the corresponding programmes of the Ministry of Community Development, a Coordination Committee of Small Industries was set up in 1957.

### HANDLOOM INDUSTRY

The textile policy announced in June, 1956 envisaged that the total requirements of cloth would increase to 8400 million yards (inclusive of 1000 million yards for exports), as compared to a total production of 6700 million yards in 1955-56. Of the total additional quantity of 1700 million yards estimated to be required in the last year of the plan period, 1000 million yards (of which 300 million yards was to be produced from the Ambar yarn and the balance from the mill made yarn) were allotted to the handloom industry, remainder being divided between powerlooms (200 million yards) and organised mill industry (350 million yards) after keeping an unallocated reserve of 150 million yards of cloth.

A phased production programme, subsequently drawn up by the All India Handloom Board, envisaged the Second Plan allotment of 700 million yards of handloom cloth, from mill yarn, to be produced by the end of the first three years 1956—59. The following abstract gives the production of handloom cloth during the years 1956—59:

(m. yards)

| Year | Targets as provisionally adopted by the Handloom Board | Estimated achievements | Shortfalls (2—3) |
|---|---|---|---|
| 1 | 2 | 3 | 4 |
| 1956-57 . . | 1653·2 | 1600·0 | 53·2 |
| 1957-58 . . | 1989·5 | 1714·0 | 275·5 |
| 1958-59 . . | 2219·8 | 1865·1 | 354·7 |

Although the production of handloom cloth has increased progressively during the three years under review, it fell short of the targets. The principal reason for the shortfall was the delay in fixation of the production targets for all the States. Further, there were reports of accumulation of unsold stocks and increase in the price of certain varieties of handloom cloth. A sub-committee appointed in January, 1957 to investigate the matter reported that apart from the lack of correlation between the demand and production of certain varieties of cloth the accumulation of unsold stocks was due to the deterioration in the general economic conditions of the people as a result of unfavourable seasonal conditions and rise in the price of foodgrains and other essential requirements. The accumulation was also due to the reduction in the rate of rebate from 9 nP to 6 nP from 1st December, 1957. To clear the accumulated stock with Government depots and cooperative societies additional rebate of 6 nP was allowed for about six months during 1958-59.

During the period under review, there was a considerable fall in exports of handloom products which was mainly attributable to competition from other countries and to fiscal restrictions imposed in certain traditional export markets. In 1956, an American team of experts sponsored by the Ford Foundation was invited to suggest measures for stepping up exports to the U.S.A. In pursuance of the Team's recommendations the Handloom Export Organisation, as a subsidiary to the State Trading Corporation, was set up in January, 1959. With effect from the beginning of 1958, it was also decided to transfer the working of the external marketing scheme from the Madras State Handloom Weavers Cooperative Society to the All India Handloom Fabrics Marketing Cooperative Society.

To assist the industry, design centres were set up at Bombay, Madras and Banaras during the period under review. Besides a special centre was also started at Kanchipuram purely for designing silk fabrics.

In May 1958, the Government of India appointed a Committee under the Chairmanship of the Textile Commissioner (commonly known as Joshi Committee) to enquire into the problems relating to the cotton textile industry including the handloom industry and to suggest necessary remedial measures to overcome the difficulties of the industry. In its report, submitted in July 1958, the Committee dealt with some measures relating to the handloom sector which were of immediate importance in relation to the textile mill industry. Some of these are: (i) the extent of assistance available by way of rebate for handloom industry should be placed on a fairly stable basis and not made subject to fluctuations at short notice and (ii) the positive assistance designed to ensure the efficiency and improving the quality of products of the handloom sector should be pursued with even greater vigour.

## POWERLOOMS

The cotton textile policy referred to above envisaged a production of 200 million yards of cloth through installation of 35,000 powerlooms in the handloom sector during the two years 1956-58. Progress in the actual conversion of the handlooms into powerlooms was, however, very slow mainly on account of the delay in the finalisation of the programme and in its introduction after the announcement of the policy in June 1956. The slow progress necessitated extending the programme beyond 1957-58. By the end of 1958-59 State Governments had placed orders for 2088 powerlooms of which 1118 looms had been received and 572 installed. Production from 454 out of the 572 powerlooms installed by the end of 1958-59 totalled to 4.78 lakh yards.

## KHADI AND VILLAGE INDUSTRIES

An important development during the period under review was the enactment of the Khadi and Village Industries Commission Act in September, 1956 for the setting up of a Statutory Commission and an advisory Board for the proper development of khadi and village industries. The Commission started functioning from April 1957. Three more industries, namely, carpentry, blacksmithy and fibre (excluding coir) were also brought under its purview to the extent these were concerned with the manufacture of equipment required for the industries falling within the purview of the Commission. Certain patterns of financial assistance for different types of schemes were liberalised with a view to enabling the Commission to adjust expenditure on its programmes specially pertaining to training, exhibitions and publicity.

### Ambar Charkha Programme

The Ambar Charkha programme was launched in September, 1956 when the introduction of 75,000 charkhas during 1956-57 was approved on the recommendations of the Ambar Charkha Enquiry Committee, commonly known as Khera Committee. The progress achieved in the implementation of the prorgamme during 1956-57 was reviewed in December 1956 and an enlarged programme of 1.8 lakh charkhas for 1957-58 approved. Subsequently, however, the targets for 1957-58 were lowered. The main reason for this was that certain assumptions made earlier mainly in regard to the productivity of the Ambar Charkha did not materialise. The following abstract shows the main targets of development and achievements during the three years under review.

## Ambar Charkha Programme

### Targets of Development and Achievement

| Sl. No. | Item | Unit | Second Plan targets | 1956-57 | | 1957-58 | | 1958-59 | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Targets | Achievement | Targets | Achievement | Targets | Achievement |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1 | Charkhas : | | | | | | | | |
| | (a) manufactured . . . | '000 nos. | .. | 75·0 | 76·8 | 180·0 | 115·7 | 100·0 | 74·4 |
| | (b) distributed . . . . | Do. | .. | 70·0 | 45·7 | 150·0 | 98·8 | (Not indicated) | 100·4 |
| 2 | Spinners trained . . . . | Do. | .. | 70·0 | 48·7 | 150·0 | 120·3 | 150·0 | 114·7 |
| 3 | Ambar Yarn produced . . . | m. Lbs. | .. | 0·6 | 0·7 | 5·5 | 2·5 | 3·8 | 3·8 |
| 4 | Ambar Cloth produced . . . | m. Sq. Yds. | 60·0 | 2·75 | 1·9 | 20·0 | 11·1 | 25·0 (Revised) | 24·0 |

The employment generated by the Ambar Charkha programme as estimated by the Khadi Commission is given below:

| | 1956-57 | 1957-58 | 1958-59 |
|---|---|---|---|
| Spinners' families . . . . . . . . | 45,742 | 100,000 | 100,000 |
| Weavers' families . . . . . . . . | 5,000 | 3,000 | 4,000 |
| Others . . . . . . . . . | 6,528 | 7,000 | 7,000 |
| | 57,270 | 110,000 | 111,000 |

**Village Industries**

The Village Industries Research Institute was established for carrying out research in techniques of production and various other aspects of village industries.

The Oil Seeds Crushing Enquiry Committee submitted its report in July 1956. One of the recommendations was that no additional power driven mill should be set up in the country. This has been accepted by the Government subject to the proviso that power driven mills may be set up in areas where alternative methods of crushing oilseeds were not feasible. State Governments have been empowered under Section 5 of the Essential Commodities Act to implement the accepted recommendations.

Under the scheme for "Intensive Development of village industries in selected areas" which aims at integrated economic development of groups of villages, 96 areas were selected for preparatory work and intensive development by the end of 1958-59. The corresponding number of the areas by the end of 1957-58 was 53. Development plans were prepared for a number of villages to serve as models for other villages.

### SMALL SCALE INDUSTRIES

Four regional Small Industries Service Institutes intended to serve as industrial extension service for providing technical assistance to small entrepreneurs had been started by 1955-56. During the two years 1956–58 another 12 major and 2 branch institutes were set up at different places. Following reorganisation in early 1958, there were 15 Small Industries Service Institutes—one in each State and one in Delhi—and four branch institutes. In addition, extension centres intended to assist the development of industries concentrated in certain localities were also established at 17 different places including one at Batala for agricultural implements and machine tools and another at Meerut for sports goods. The activities of the institutes and the centres, however, were considerably limited owing to shortage of technical personnel and also proper buildings. The services of the several foreign experts were secured for the Institutes and for certain specified industries like handtools, foundry and scientific instruments. The economic investigation teams attached to the Institutes carried out a number of surveys on various aspects of development of small industries.

The original definition of small scale industries covered only such units as employing less than 50 workers with power and less than 100 workers without power and having capital assets not exceeding Rs. 5 lakhs. Following representations to revise the definition with a view to making maximum use of the equipment and capital outlay, the definition has been revised to include units employing less than 50 workers *per shift* when using power or less than 100 persons *per shift* when not using power with a capital investment of less than Rs. 5 lakhs. The modification in the definition was agreed to subject to two conditions *viz.* (i) the concession under the stores purchase policy of the Government would continue to be given only to such units as would come under the purview of the earlier definition and (ii) the rate of interest on loans advanced under the State Aid to Industries Acts should be governed by the capital investment of the small industries namely 3 per cent to units with capital investment up to Rs. 2 lakhs, 4½ per cent to undertakings with capital investment of Rs. 2 to 4 lakhs and 6 per cent to units with capital investment of more than Rs. 4 lakhs. Industrial co-operative societies, however, are precluded from the application of this proviso.

The authorised capital of the National Small Industries Corporation which is entrusted with many of the commercial and marketing aspects of the development of small industries, was raised in January 1957 from Rs. 10 lakhs to Rs. 50 lakhs of which the Government subscribed Rs. 20 lakhs by the end of 1958-59. Regional offices, set up with a view to widening and decentralising its activities, were merged with the regional subsidiary corporations established in February-March, 1957 with an authorised capital of Rs. 10 lakhs each.

A new procedure was announced in November, 1956 for assisting small industries to participate more fully in the Government store purchases which envisaged certain concessions and privileges for small units, especially in regard to supply of parts and components to large firms. Special administrative arrangements were made for bringing about a closer liaison between the Corporation and the Directorate General of Supplies and Disposals who also agreed to accept tenders from unregistered small units and to waive the conditions for a security deposit from such units provided their competence to execute a contract was certified by the Corporation. Arrangements were also finalised with the State Bank of India for providing credit facilities to small units for enabling them to execute contracts obtained through the assistance of the Corporation. As a result the value of contracts obtained by small units with the assistance of the Corporation increased gradually from Rs. 1·19 lakhs in 1956-57 to Rs. 62·15 lakhs in 1957-58 and Rs. 256·12 lakhs in 1958-59. Against five orders for the supply of nearly 4·5 lakh pairs of shoes received by the Corporation from the USSR, a little over 4 lakh pairs have been supplied during the three years under review. In addition, some more shoes were supplied against an order of 54,000 pairs from Poland.

On the basis of information collected by the Corporation from 113 units in 1957-58, which had been supplied with machines on hire-purchase terms, it was estimated that the supply of machines through the Corporation resulted in the employment of 770 persons and an increase in output valued at Rs. 4.4 lakhs per month. The Corporation also supplied sewing machines to women in low income groups and men trained in tailoring institutes run by the Ministry of Community Development and the State Social Welfare Boards. This scheme has since been suspended.

Negotiations were also initiated by the Corporation with some large undertakings in the private as well as public sectors for starting ancillary industries on small scale basis. The Corporation was entrusted with the setting up of a proto-type production-*cum*-training centre at Rajkot in collaboration with Technical Co-operation Mission of the United States of America and another at Okhla in collaboration with the West German Government.

A Working Group was set up by the Small Scale Industries Board in January, 1958 mainly to simplify rules and procedures obtaining in various States for advancing loans under the State Aid to Industries Acts. The pilot scheme for the provision of co-ordinated credit to small scale industries initiated in 1956 by the State Bank of India in 9 selected centres has been liberalised and extended to all the branches of the bank with effect from 1st January, 1959.

### State Government Schemes

One noteworthy feature of the development expenditure on small scale industries incurred by the various State Governments was that more than 50 per cent. of their total expenditure was incurred on block loans, namely, loans to small industrialists under the State Aid to Industries Acts. The other State schemes related to setting up of training-*cum*-production centres, common service facility centres, organisation of industrial cooperative societies, strengthening the staff of State Directorates of Industries and provision of subsidy on power. Besides, schemes of commercial and service-*cum*-commercial nature were also taken up.

### Industrial Estates

The construction of industrial estates at Okhla (Delhi) and Naini (Allahabad) had been entrusted to the National Small Industries Corporation. The first phase of the estate at Okhla covering about 40 acres was completed in February 1958. The construction of the other estate at Naini covering an area of about 23 acres was also almost completed. In addition 95 schemes of the State Governments including factory accommodation scheme of the Punjab Government, were approved during the period under review. These included 9 estates in pilot projects for intensive development of cottage and small industries and another 19 in CD blocks. By the end of the year 1958-59, 40 industrial estates were completed, of which, 25 have started functioning. All others were under various stages of construction.

## HANDICRAFTS

The principal developmental activities undertaken by the All India Handicrafts Board were the establishment of 31 pilot centres and 4 regional design centres by the end of 1958-59. The Board also participated in exhibitions within and outside the country. It was decided in 1957-58 to set up Handicrafts Development Corporation mainly to develop export markets and also to organise production of exportable articles within the country. Seminars on marketing and co-operatives for handicrafts artisans and marketing clinics were also organised during the period under review. The bulk of the expenditure was incurred on State Government schemes relating to training of artisans, marketing of products, organisation of co-operatives, setting up of common facility centres, improvements in design and introduction of quality marking.

## SERICULTURE

The Central Silk Board's efforts were mainly directed towards the establishment of the Central Foreign Race Seed Station at Srinagar and the All India Sericulture Training Institute at Mysore. The Board also handled the distribution of imported raw silk. The export of silk waste was also regulated by the Board.

The bulk of the States' schemes were for improvement of mulberry plantation, creation of a sound seed organisation, improvement in silk worm rearing and silk reeling and the improvement in quality of raw silk.

### COIR

The schemes implemented directly by the Coir Board related mainly to research and marketing. During the period under review the schemes relating to the Central Coir Research Institute near Alleppy and branch research institute near Calcutta were sanctioned. A pilot plant was to be set up with the Institute to study the effects of displacement of labour in the event of modernisation in the manufacturing sector. A model factory was to be attached to the branch institute at Calcutta. A census of coir industrial establishments as a preliminary for registration of producers of coir and coir products was completed during the first year of the second plan period. Rules relating to the registration of coir spindles and industrial establishments, exporters and licensing of exports came into force towards the end of February, 1958. A committee was set up to evaluate the achievements in respect of various schemes under implementation and to suggest measures for the development of the industry. The Committee submitted its report in December 1958. The resolution embodying the decisions of the Government of India on the recommendations of the Committee has since been issued by the Ministry of Commerce and Industry. Exports of coir goods showed a decline during the early years of the second plan period. Accordingly, a survey was conducted which revealed that while imports by foreign countries of coir yarn had been fairly steady, there is a gradual decline in the import of manufactured goods from India, particularly coir matting. To step up exports of coir goods various measures such as publicity and propaganda, participation in exhibitions and fairs in foreign countries, etc., were undertaken.

The important coir-producing States continued implementation of schemes relating to organisation of co-operatives and setting up of production-*cum*-training centres.

### COMMUNITY DEVELOPMENT INDUSTRIAL PILOT PROJECTS

With a view to initiating an intensive programme for the development of various village and small industries on a pilot basis in a few selected C. D. Blocks, and evolving a pattern of industrial extension service to serve as a guide for rural industrialisation, 26 pilot projects were sanctioned and 25 of these had started functioning by the end of 1958-59. The total expenditure incurred on the programme up to March, 1959 was of the order of Rs. 2.3 crores. Of this, 42 per cent was accounted for by the projects at Neyyattinkara, Bihar Sherif and Kakinada-Peddapuram which recorded rapid progress. Six projects, *viz.*, Manavadar-Vanthali, Gobe-erode, Dhuri-Malerkotla, Deoband, Baripur and Nutan Haveli accounted for about 32 per cent of the total expenditure. Progress in the remaining projects was generally slow and uneven.

## ANNEXURE

*Progress of expenditure on Village and Small*

| Sl. No. | Head of development | Second Plan Provision (Revised) | 1956-57 | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Budget Estimates | Actuals | Actuals as percentage of | | Budget Estimates | Actuals |
| | | | | | 1956-57 Budget Estimates | Second Plan Provision | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 1 | Handloom Industry . | 27·03 | 6·09 | 6·56 | 108 | 24 | 5·99 | 5·76 |
| 2 | Conversion of handlooms into powerlooms . | 3·70 | 0·95 | 0·81† | 85 | 22 | 3·38 | 0·81† |
| 3 | Traditional Khadi | 23·66 | 5·37 | 8·48* | 216 | 36 | 3·16 | 5·17* |
| 4 | Ambar Charkha programme . | 38·92 | | 3·12* | | 8 | 10·09 | 6·52* |
| 5 | Village industries | 17·53 | 2·85 | 3·26* | 115 | 19 | 4·28 | 3·24* |
| 6 | Small Scale industries . . | 44·57 | 7·17 | 4·34 | 61 | 10 | 7·30 | 7·69 |
| 7 | Industrial estates | 11·00 | 1·00 | 0·96 | 96 | 9 | 1·00 | 2·12 |
| 8 | Handicrafts . | 5·05 | 1·02 | 0·45 | 44 | 9 | 1·15 | 0·69 |
| 9 | Sericulture . | 4·08 | 0·70 | 0·39 | 56 | 10 | 1·15 | 0·63 |
| 10 | Coir . . | 1·76 | 0·27 | 0·19 | 70 | 11 | 0·37 | 0·19 |
| | TOTAL . . | 177·30 | 25·42 | 28·56 | 112 | 16 | 37·87 | 32·82 |

*Includes expenditure met from recoveries of loans.

†Represent releases to State Governments.

*N.B.* Figures for traditional and Ambar Khadi and Village Industries represent disbursements by the Khadi Commission.

I

*Scale Industries during the years, 1956-57 , 1957-58 and 1958-59*

(Rs. crores)

| 1957-58 | | | 1958-59 | | | | | 1956-59 | |
|---|---|---|---|---|---|---|---|---|---|
| Actuals as percentage of | | | Budget Estimates | Actuals | Actuals as percentage of | | | Actuals | Actuals as percentage of Second Plan Provision |
| 1957-58 Budget Estimates | 1956-57 Actuals | Second Plan Provision | | | 1958-59 Budget Estimates | 1957-58 Actuals | Second Plan Provision | | |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 96 | 88 | 21 | 5·36 | 5·62 | 105 | 98 | 21 | 17·94 | 66 |
| 24 | 100 | 22 | 1·88 | 0·66† | 35 | 81 | 18 | 2·28† | 62 |
| 164 | 61 | 22 | 3·50 | 8·62* | 246 | 167 | 36 | 22·27* | 94 |
| 65 | 209 | 17 | 5·00 | 6·71* | 134 | 103 | 17 | 16·35* | 42 |
| 76 | 99 | 18 | 4·27 | 4·07* | 95 | 126 | 23 | 10·57* | 60 |
| 105 | 177 | 17 | 9·28 | 9·24 | 100 | 120 | 21 | 21·27 | 48 |
| 212 | 221 | 19 | 1·82 | 2·18 | 120 | 103 | 20 | 5·26 | 48 |
| 60 | 153 | 14 | 1·31 | 1·12 | 85 | 162 | 22 | 2·26 | 45 |
| 55 | 162 | 15 | 1·26 | 0·70 | 56 | 111 | 17 | 1·72 | 42 |
| 51 | *100 | 11 | 0·32 | 0·43 | 134 | 226 | 24 | 0·81 | 46 |
| 87 | 115 | 19 | 34·00 | 39·35 | 116 | 120 | 22 | 100·73 | 57 |

## ANNEXURE II

*Progress of Physical achievements under the Small Scale and Village Industries sector during the years 1956-57, 1957-58 and 1958-59*

| Head of Development/Item | Unit | 1956-57 | 1957-58 | 1958-59 |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| I. *Handloom* : | | | | |
| 1. Cloth production . | Million Yds. | 1600·0 | 1714·0 | 1865·1 |
| 2. Registered looms . . | Millions | 0·9 | 1·3 | 0·5 |
| 3. Looms brought within the cooperative fold . | Lakhs | 0·22 | 1·48 | 0.01 |
| 4. Sales depots . . . | Nos. | 206 | 198 | 39 |
| 5. Dye houses . . . | Nos. | 39 | 91 | 50 |
| 6. Pattern-making factories . | Nos. | 6 | 10 | 2 |
| 7. Fly shuttles distributed . | ' 000 | 9·7 | 1·9 | 2·4 |
| 8. Reeds distributed . | „ | 44·6 | 38·2 | 25·7 |
| 9. Dobbies distributed . | „ | 3·1 | 6·0 | 3·1 |
| 10. Semi-automatic Pedal looms distributed . | „ | 0·8 | 0·4 | 0·3 |
| 11. Healds distributed . | „ | 44·5 | 29·5 | 10·6 |
| 12. Warping machines distributed . . . | Nos. | 170 | 157 | 228 |
| 13. Handloom products exported: | | | | |
| (*a*) Value† . . . | Rs. crores | 8·7 | 5·6 | 5·2 |
| (*b*) Quantity† . . . | Million Yds. | 59·9 | 37·5 | 35·2 |
| 14. Houses built for weavers | Nos. | 87 | 312 | 520 |
| II. *Powerlooms* : | | | | |
| 1. Powerlooms installed . | Nos. | .. | .. | 572 |
| III. *Khadi* : | | | | |
| 1. Cloth production (annual) | | | | |
| (*a*) Traditional Khadi : | | | | |
| (*i*) Cotton commercial | Million Sq. Yds. | 26·38 | 28·28 | 33·83 |
| (*ii*) Cotton self-sufficiency | „ | 13·08 | 17·71 | 9·98 |
| (*iii*) Woollen . . . | „ | 1·56 | 2·81 | 3·04 |
| (*iv*) Silken . . . . | „ | 0·70 | 1·26 | 1·45 |
| TOTAL (*a*) . . | | 41·72 | 50·06 | 48·30 |

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| (*b*) Ambar cloth . . | Million Sq. Yds. | 1·88 | 11·14 | 24·03 |
| 2. Additional employment : | | | | |
| (*a*) Under Traditional Khadi Programme : | | | | |
| (*i*) Spinners . . . | Lakh persons | 1·48 | 1·15 | 1·48 |
| (*ii*) Weavers . . . | Do. | 0·11 | 0·10 | .. |
| (*iii*) Others . . . | Do. | 0·07 | 0·20 | 0·02 |
| TOTAL (*a*) . . | | 1·66 | 1·45 | 1·50 |
| (*b*) Under Ambar Charkha Programme : | | | | |
| (*i*) Spinners' families . | Lakhs | 0·46 | 1·00 | 1·00 |
| (*ii*) Weavers' families . | Lakhs | 0·05 | 0·03 | 0·04 |
| (*iii*) Others . . . | Lakhs | 0·06 | 0·07 | 0·07 |
| TOTAL (*b*) . . . | | 0·57 | 1·10 | 1·11 |
| 3. Ambar Charkha Programme : | | | | |
| (*a*) Charkhas : | | | | |
| (*i*) Manufactured . . | '000 | 76·8 | 115·7 | 74· |
| (*ii*) Distributed . . | '000 | 45·7 | 98·8 | 100·4 |
| (*b*) Spinners trained . | '000 | 48·7 | 120·3 | 114·7 |
| (*c*) Yarn production . | Million Lbs. | 0·7 | 2·5 | 3·8 |
| (*d*) Training and Organisation: | | | | |
| (*i*) Vidyalayas (Main) . | Nos. | 35 | 3 | .. |
| (*ii*) Vidyalayas (Subsidiary) | Nos. | 14 | 12 | .. |
| (*iii*) Sarinjam Karyalayas (Large) . | Nos. | 77 | 31 | .. |
| (*iv*) ,, (Small) . | Nos. | .. | 279 | 206 |
| (*v*) Parishramalayas . | Nos. | 331 | 1111 | 1266 |
| 4. Traditional Khadi : | | | | |
| (*a*) New Charkhas distributed . . . . | '000 | N.A. | 32·3 | 14·3 |
| (*b*) Parent institutions . | Nos. | 141 | 110 | 141 |
| (*c*) Production centres . | Nos. | 148 | 993 | 727 |
| (*d*) Sales centres . . | Nos. | 230 | 649 | 968 |
| IV. *Village Industries* (Annual Production) | | | | |
| 1. Handpounded rice . | Lakh Mds. | 12·85 | 11·73 | 11·17 |
| 2. Ghani Oil . . . . | Do. | 1·60 | 3·85 | 8·71 |
| 3. Village leather (tanned hides) . . . . | '000 | 11·4 | 51·5 | 97·6 |
| 4. Cottage Match . . | '000 gross boxes. | 16·93 | 11·68 | 9·69 |
| 5. Soap . . . . . | Lakh lbs. | 12·53 | 25·91 | 34·28 |
| 6. Handmade paper . . | ,, | 9·03 | 18·78 | 25·04 |
| 7. Bee keeping (Honey) . | ,, | 1·30 | 2·98 | 5·31 |

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| V. *Small Scale Industries* | | | | |
| 1. Extension and Training Programme : | | | | |
| (*a*) Service Institutes (cumulative) | Nos. | 16 | 18 | 19 |
| (*b*) Extension Centres (cumulative) | Nos. | 7 | 12 | 17 |
| (*c*) Parties advised : | | | | |
| (*i*) General technical advice . . . . | '000 | 8·1 | 18·0 | 18·7 |
| (*ii*) Information regarding starting of new industries . . . | '000 | 0·8 | 3·5 | 8·0 |
| (*d*) Units visited by Technical Officers for rendering on the spot advice . | '000 | 15·2 | 19·9 | 27·7 |
| (*e*) Rural artisans trained in the operation of modern machinery . | '000 | 1·6 | 10·9 | 6·8 |
| 2. National Small Industries Corporation : | | | | |
| (*a*) Machines supplied on hire-purchase : | | | | |
| (*i*) Quantity . . . . | Nos. | 191 | 787 | 1256 |
| (*ii*) Value . . . . | Rs. lakhs | 10·9 | 64·8 | 108·4 |
| (*b*) Sewing machines supplied to women of lower income groups . . | Nos. | 299 | 1248 | ** |
| (*c*) Sales : (Value) | | | | |
| (*i*) at wholesale depots . | Rs. lakhs | 1·28 | 6·10 | 14·64 |
| (*ii*) by mobile vans . | " | 0·74 | 3·22 | 2·06 |
| (*d*) Govt. purchases : | | | | |
| (*i*) Tenders secured . | Nos. | 10 | 113 | 707 |
| (*ii*) Value . . . . | Rs. lakhs | 1·19 | 62·15 | 256·12 |
| 3. Industrial Estates (completed) (cumulative) . . | Nos. | .. | 10 | 40 |
| 4. Loans by State Financial Corporations : | | | | |
| (*a*) Amount sanctioned . | Rs. crores | 2·14 | 2·39 | 3·08 |
| (*b*) Amount disbursed . | " | 0·97 | 1·35 | 1·98 |
| 5. Loans by State Govts. under the State Aid to Industries Acts . . . | " | 1·9 | 2·7 | 2·7 |
| VI. *Handicrafts* : | | | | |
| 1. Pilot centres . . . . | Nos. | 18 | 6 | 7 |
| 2. Regional Design Centres . | Nos. | 4 | .. | .. |
| VII. *Sericulture* : | | | | |
| 1. Production of Raw silk† . | Lakh lbs. | 30·5 | 32·4 | 34·0 |
| VIII. *Coir* : | | | | |
| 1. Export of coir products . | Value in Rs. crores. | 9·67 | 7·94 | 8·26 |

**Programme suspended.

†Figures relate to calendar years.

# *CHAPTER XI*

## TRANSPORT AND COMMUNICATIONS

The first plan aimed at rehabilitating the transport system which had been subjected to unprecedented strain since world war II. This had been substantially achieved. The principal objective of the second plan was to provide for the expansion of the country's means of transport to meet the growing requirements of trade and industry. Noteworthy success had been achieved in this direction too as is evident from the achievements recorded in the various sectors of transport and communications. Selected plan targets and achievements during the first three years of the plan are given as an appendix to this chapter. Progress of expenditure under various heads is also presented as an appendix to the chapter.

### RAILWAYS

### Progress of Expenditure

The following table indicates the progress of expenditure upto the end of 1958-59 under various plan heads:—

(Rs. crores).

| Head | Plan Provision | 1956-57 Actuals | 1957-58 Actuals | 1958-59 Actuals | 1956—59 | Expenditure during 56—59 as percentage of Plan Provision |
|---|---|---|---|---|---|---|
| 1. Rolling Stock . . . | 380·00 | 93·8 | 84·4 | 75·1 | 253·3 | 67 |
| 2. Workshop, Plant & Machinery . . . . . | 65·0 | 7·5 | 8·9 | 10·6 | 27·0 | 41 |
| 3. Track Renewals . . . | 100·0 | 14·8 | 29·6 | 44·1 | 88·5 | 88 |
| 4. Ganga Bridge . . . | 9·0 | 2·4 | 2·3 | 2·5 | 7·2 | 78 |
| 5. Bridge Works . . . | 24·0 | 0·8 | 3·2 | 6·1 | 10·1 | 42 |
| 6. Line Capacity Works . . | 186·0 | 15·8 | 30·1 | 45·8 | 91·7 | 49 |
| 7. Signalling and Safety Works . | 25·0 | 1.6 | 2·1 | 3·8 | 7·5 | 30 |
| 8. Electrification . . . | 80·0 | 4·1 | 13·8 | 6·5 | 24·4 | 30 |
| 9. New Lines . . . . | 66·0 | 8·4 | 14·1 | 13·2 | 35·7 | 54 |
| 10. Others . . . . | 186·5 | 29·8 | 63·0 | 37·5 | 130·3 | 70 |
| TOTAL . . | 1121·5* | 179·0 | 251·5 | 245·2 | 675·7 | 60 |

*Excludes Rs. 3·5 crores for the development of Vizagapatnam port transferred to the Ministry of Transport.

NOTE —The Plan provision of Rs. 1121·5 crores includes Rs. 225 crores from the Railway Depreciation Fund to be distributed evenly at the rate of Rs. 45 crores per year.

The railway secured a new loan in 1958 of 85 million dollars or Rs. 40·5 crores from the World Bank for the purchase of rolling stock, other railway equipment and materials. This has been fully utilised by 31st March, 1959 in accordance with the time schedule envisaged. In addition, an amount, equivalent to Rs. 16·4 crores, was withdrawn during the year, out of loans granted by the World Bank during the preceding year.

**Freight and Passenger Traffic**

Both freight and passenger traffic continued to increase although at a lower rate than in the preceding two years. The rate of growth was affected by economic factors such as fall in agricultural output during 1957-58 agricultural season, adverse commercial conditions abroad affecting the movement of goods for export and the slowing down of the tempo of industrial production.

Trends in passenger and freight traffic during the first three years of the second plan are given in the following table.

| Year | Passengers originating (Millions) | Percentage increase over preceding year | Freight carried (Mill. Tons) | Percentage increase over preceding year |
|---|---|---|---|---|
| 1955-56 . . . . . | 1275 | 3·2 | 114·0 | 7·8 |
| 1956-57 . . . . . | 1360 | 6·7 | 124·1 | 8·9 |
| 1957-58 . . . . . | 1410 | 3·7 | 132·4 | 6·7 |
| 1958-59 . . . . . | 1422 | 0·9 | 134·8 | 1·8 |

**Rolling Stock**

During 1958-59, the railway added 369 locomotives including 71 diesels, 1643 coaches and 13422 wagons to their rolling stocks making a total of 1493 locomotives including 91 diesels, 4322 coaches and 75612 wagons acquired since the beginning of the second plan. Thus by the end of 1958-59, 69 per cent of the plan targets in respect of locomotives, 49 per cent in case of coaches and 68 per cent in case of wagons had been achieved. An encouraging feature was the increase in the value of stores and equipment purchased indigenously, and in the indigenous production of wagons, locomotive etc. as will be seen from the following table:—

| | 1955-56 | 1956-57 | 1957-58 | 1958-59 | 1956—59 |
|---|---|---|---|---|---|
| 1. Value of stores and equipment purchased indigenously (Rs. crores) . | 94 | 126 | 158 | 168 | 452 |
| 2. Value of stores and equipment imported (Rs. crores) | 33 | 46 | 63 | 86 | 195 |
| 3. Indigenous production of wagons (Nos.) . . . | 15,445 | 16,882 | 17,432 | 12,094 | 46,408 |
| 4. Production of Chittaranjan locomotives (Nos.) . . | 129 | 156 | 164 | 165 | 485* |
| 5. Coach shells produced by Integral Coach Factory, Perambur (Nos.) . . | 12 | 88 | 222 | 380 | 690† |

*It will be 833 since the commencement of production in November, 1950.

†It comes to 702 shells since commencement of production in October, 1955

The period under review also recorded some improvement in the proportion of overage rolling stock in the case of locomotives and wagons.

| March | Locomotives | | | Coaches | | | Wagons | | |
|---|---|---|---|---|---|---|---|---|---|
| | B.G. | M.G. | N.G. | B.G. | M.G. | N.G. | B.G. | M.G. | N.G. |
| 1956 . | 33·2 | 25·8 | 33·7 | 32·3 | 32·7 | 53·1 | 18·0 | 21·2 | 51·6 |
| 1957 . | 30·7 | 23·1 | 33·5 | 34·2 | 28·9 | 52·1 | 15·7 | 16·6 | 52·3 |
| 1958 . | 28·2 | 19·4 | 35·7 | 36·5 | 29·6 | 56·5 | 13·0 | 13·8 | 52·1 |
| 1959 . | 27·3 | 18·6 | 34·2 | 36·6 | 29·6 | 56·4 | 11·0 | 12·1 | 51·6 |

## Works Programme

The total mileage of new lines opened upto 1958-59 was 428 miles as against the plan target of 842 miles. The total mileage of new lines under construction or sanctioned in 1958-59 were 541 miles.

Against the plan target of 1607 miles of doubling, work on 387 miles was completed during the year 1958-59 bringing the total to 418 miles. Work on 923 miles of different sections was in progress. During the year 65 crossing stations were opened; additional loops were provided at 55 stations; existing loops were extended at 130 stations; 30 minor yards were remodelled; and the work on six major yards, namely Hirapur Exchange Yard, Gonda, Alipurduar (New Yard), Tiruvavur, Ratlam and Churchgate was completed. Work on 38 major yards was in progress.

The Second Plan provided electrification of about 1442 route miles but this was rephased owing to the shortage of power and difficult foreign exchange position.

Electrification of a length of 88 mile on the Howrah—Burdwan main line and Sheoraphuli-Tarkeshwar Branch was nearly completed. By the end of the 1958-59, 112 electric trains were running on these sections daily. Electrification of the main line on Eastern and South-Eastern Railway was in progress.

The 14 span rail-*cum*-road Ganga Bridge was opened to all kinds of rail traffic facilitating the movement of traffic from broad gauge areas to North Bihar, North Bengal and parts of U.P. Construction on the new Gandak Bridge progressed satisfactorily and more than 60 per cent of the work was completed by the end of March, 1959. Work on a double line metre gauge bridge on the River Brahmaputra between Amingaon and Pandu, costing Rs. 10 crores, was progressing satisfactorily. A second bridge across the Yamuna connecting Tughlakabad with Ghaziabad with a new line was sanctioned during 1958-59 and arrangements for land acquisition were in progress.

The following table gives the selected indicators of operating efficiency for the proper assessment of the performance of Railways.

| | Broad Gauge | | | Meter Gauge | | |
|---|---|---|---|---|---|---|
| | 1956-57 | 1957-58 | 1958-59 | 1956-57 | 1957-58 | 1958-59 |
| 1. Engine miles per engine day on line . . . . | 83 | 85 | 84 | 76 | 74 | 73 |
| 2. Wagon miles per wagon day . | 47·8 | 47·3 | 45·6 | 28·7 | 30·1 | 28·8 |
| 3. Net ton miles per wagon day . | 570 | 598 | 573 | 210 | 225 | 216 |
| 4. Wagon turn round (No. of days) | 10·4 | 10·8 | 11·5 | 8·00@<br>6·70* | 8·38@<br>7·45* | 8·92@<br>7·80* |
| 5. Train miles per running track mile per day . . . | 18·5 | 20·0 | 19·9 | 12·0 | 12·7 | 12·9 |
| 6. Average speed of goods trains (miles per hour) . . | 9·6 | 9·3 | 9·4 | 8·4 | 8·4 | 8·1 |

@ Northern Pool.

* Southern Pool.

It may be noted that during 1958-59 better operating results could not be achieved on account of operational difficulties caused by heavy rains and floods. The extension work in execution on different railways also necessitated operation restrictions, engineering blocks, and diversion of traffic. Besides owing to slowing down of the rate of increase of traffic due to economic factors, the rolling stock available could not be utilised.

## Training Programme

In addition to the existing training schools (fifty in number) for imparting training to various categories of staff, a school for advanced training was started at Poona. This school will serve the ECAFE countries also. Basic training centres started functioning at Bhusawal, Secunderabad, Jabalpur, Gorakhpur and Perambur. The Uttar Pradesh Government technical training school at Jhansi was taken over by the Central Railway and facilities for training 50 candidates at a time were provided.

## Railway User's Amenities

A sum of Rs. 9·87 crores was spent on improvement of amenities to passengers upto the end of 1958-59 against the allotment of Rs. 15 crores during the five-year period. During 1958-59, the facility of sleeping accommodation for III Class Passengers was extended to 4 more trains, making a total of 26 trains by the end of the year. Departmental catering was functioning at 103 stations and on 21 dining cars.

## Staff Welfare

A sum of Rs. 22·98 crores was spent on construction of staff quarters and Rs. 5·51 crores on staff welfare by the end of 1958-59 against the allotment of Rs. 50 crores during the five-year period. During the year, 11,481 quarters of various types were constructed. By the end of 1958-59, 3 new hospitals, 50 dispensaries, 663 additional beds in existing hospitals and 813 beds in T.B. Sanatoria were provided. In addition, 8 hospitals were under construction; 455 beds are expected to be provided in these hospitals.

The staff in position on Indian Railways increased from 1·11 million at the end of 1957-58 to 1·14 million at the end of 1958-59.

## ROADS

The road development plan made satisfactory progress in 1958-59. Achievement by the end of 1958-59 as compared with the Nagpur Plan targets is shown in the following table:—

| Item | Nagpur Plan Targets | Mileage as on 31-3-56 | Mileage as on 31-3-59 | Achievement by 1958-59 as percentage of Nagpur Plan Targets |
|---|---|---|---|---|
| Surfaced roads (miles) . | 1,23,000 | 1,22,000 | 1,36,000 | 109 |
| Unsurfaced roads (miles) | 2,08,000 | 1,98,000* | 2,47,000* | 108 |
| TOTAL . | 3,31,000 | 3,20,000* | 3,83,000* | 119 |

*Including roads under C.D programme.

It will be seen that the Nagpur Plan targets in respect of mileage of roads had been exceeded by 1958-59. With the achievement of the new target India will have on an average 30 miles of roads per 100 square miles of area in 1958-59 as against the 25 miles of roads per 100 sq. miles in 1955-56.

### National Highways

Details of achievement during 1958-59 and the early years of the second plan are indicated below:—

| Item | 1956—61 Target | | Achievement | | | | Percen-age achieve-ment by 1958-59 of revised target |
|---|---|---|---|---|---|---|---|
| | Original | Revised | 1956-57 | 1957-58 | 1958-59 | 1956—59 | |
| Missing links (miles) . | 900 | 700 | 160 | 140 | 150 | 450 | 64 |
| Major bridges (number) | 60 | 40 | 7 | 12 | 7 | 26 | 65 |
| Improvement of existing sections (miles) . | 4000 | 3500 | 900 | 800 | 700 | 2400 | 69 |
| Widening to two-lane carriage way (miles) . | 1500 | 900 | 300 | 250 | 150 | 700 | 78 |

Among the important works completed during the year under review was the throwing open of the Western Tube of the Jawahar Tunnel to regular traffic. This will establish all-weather road communication between the valley of Kashmir and the rest of India and brings Jammu & Srinagar closer by 18 miles. Other important road and bridge works completed during 1958-59 include the construction of Hariala—Bareja Section of the Bombay—Delhi road and the Boriavi-Vasad section of the Bombay-Ahmedabad road in the Bombay State; the Raiganj Nagar River Section of National Highway No. 34 in Bihar and the regulator-*cum*-road bridge across the Krishna River in Andhra Pradesh.

### Roads of Inter-State or Economic Importance

During the period under review, 270 miles of new roads were constructed and 285 miles of existing roads improved bringing the total to 694 miles of new construction and 1311 miles of improvement. Among the important works completed during the year, were the improvement of Jama-Jamatra road in Bihar and the construction of Naugarh—Lumbini road and improvement of Basti—Bansi Naugarh roads in Uttar Pradesh.

### Other Roads Financed by the Central Government

These include *inter-alia* Passi Badarpur road in Assam and the West Coast road in the State of Bombay, Mysore and Kerala. About 90 miles of roads were constructed/improved during 1958-59. By end 1958-59 295 miles of such roads were constructed/improved.

### State Roads

As against the construction of 5068 miles of new surfaced roads and improvement of 7492 miles of roads during 1956-58, the achievement during 1958-59 was about 3,000 miles and 4,000 miles respectively. In addition, it is expected that a substantial mileage of roads would be constructed under the Community Development Programme.

## ROAD TRANSPORT

The Governments of Mysore and Bihar finalised their proposals for setting up Road Transport Corporations in their States. A sum of Rs. 2·42 crores were spent during the year. The total expenditure on Road Transport Schemes in the first three years of the Plan comes to Rs. 8·39 crores. In addition, a sum of Rs. 0·75 crores was contributed by the Railways to the various Road Transport Corporations in the States during 1958-59.

Besides, a sum of Rs. 25 lakhs was given as loan to the Delhi Transport Undertaking for their Plan Schemes. In all, in the first three years of the Plan, a sum about Rs. 130 lakhs is expected to be contributed to the undertaking by the Ministry of Transport.

An important step taken during the year was the setting up of an Inter-State Transport Commission (in March, 1958) for the purpose of development, co-ordination and regulation of road transport services on inter-state routes.

## TOURISM

An important development was the creation of a separate Tourist Department in March 1958, in the Ministry of Transport & Communications for providing more effective co-ordination at the centre.

The progress of the tourist schemes was limited. The number of foreign tourists who visited India increased from 80544 (excluding Pakistanis and Tibetans) in 1957 to 92193 in 1958. The foreign exchange earnings correspondingly increased from Rs. 16 crores to Rs. 17·5 crores

## SHIPPING

The total tonnage on the Indian Register (both overseas and coastal) increased from 5.87 lakh GRT at the end of 1957-58 to 6.47 lakhs at the end of 1958-59. The major increase was under tonnage engaged in overseas trade which rose from 3.24 lakhs GRT at the end of March, 1958 to 3.97 lakhs GRT on 31st March, 1959.

The original allocation of Rs. 45 crores, for shipping was revised upward to Rs. 54.25 crores. This included a sum of Rs. 8 crores for meeting commitments carried over from the first plan. All the vessels ordered in the first plan have now been delivered. As against the provision of Rs. 20 crores, a sum of Rs. 7·83 crores was invested in the share capital of the Eastern and Western Shipping Corporation by the end of 1958-59.

Against a provision of Rs. 24 crores in the Plan for loan assistance to private shipping companies for acquisition of shipping tonnage, loans to the extent of Rs. 14.46 crores have been sanctioned till the end of 1958-59, against which a sum of Rs. 9.12 crores was actually paid to the companies during the period.

Out of the provision of Rs. 9·25 crores meant for contribution to the Shipping Development Fund in the Plan, a sum of Rs. 1 crore was transferred to this fund during 1958-59.

## PORTS & HARBOURS

During the year 1958-59, conditions in the major ports were generally normal and there were no serious delays in berthing of ships. The traffic handled was about 28·75 million tons in 1958-59 indicating a decrease of about 7 per cent over 1957-58, because of decrease in the tempo of imports of capital goods, foodgrains etc.

A loan of 43 million dollars was made available by the World Bank to meet the foreign exchange components of the cost of development schemes of the ports of Calcutta (29 million dollars) and Madras (14 million dollars). A loan of about Rs. 2 crores will be made available from the U.S. President's Asian Economic Development Fund to provide facilities at Vizagapatnam Port for the export of 2 million tons of iron ore to Japan per annum in pursuance of an agreement reached in 1958-59 between the Governments of India and Japan.

The progress achieved by the end of 1958-59 on the more important development programmes at the major ports is briefly reviewed below:—

*Calcutta.*—The principal works completed at Calcutta by the end of 1958-59 include (i) Development of No. 1 Berth King George's Dock into a Heavy lift Berth and installation of a 200 tons crane, (ii) reconstruction of No. 4 Calcutta jetty into a flat loading berth, (iii) improvement of railway yards at Berths No. 15—21 Kidderpore Docks, (iv) Development of 5 Berth King George's Dock into mechanical ore berth, (v) lighting of Rangafalla channel, (vi) Purchase of 21 steam locomotives, (vii) suction dredger, two light vessels, two additional Dock Tugs, and (ix) construction of eight launches. The work on the improvement of berths No. 22—26 Kidderpore Docks, Development of D Berth King

Georges' Dock into a general cargo berth, purchase of mechanical appliances and maintaining water level in Kidderpore Dock was in an advanced stage of progress. All the three thousand units of quarters at Taratolla for Class IV Staff have been constructed. Initial investigations were carried out in respect of certain other schemes included in the second five year plan.

*Bombay.*—All the major construction work relating to Marine Oil Terminal has already been completed and the three oil berths have been in Commission. Work relating to the electrification of cranes in Alexandra Dock and Ballard Pier was also completed. Under the Labour Housing Scheme, 928 units were envisaged to be constructed in the second plan. Against this 544 units have been completed by the end of 1958-59. Work on 96 units was in progress. The remaining 288 units can only be constructed after the Defence Ministry vacates the Port site earmarked for the purpose. Experiments were in progress regarding the dredging of the Main Harbour Channel. In regard to the Minimum Scheme it has been decided to re-examine the problem and prepare a scheme with a revised programme which would not only solve the problem but also be revenue producing.

*Madras.*—About 30 per cent of the work relating to the Wet Dock Schemes, about 56 per cent of the work relating to the construction of administrative offices, about 95 per cent of the work involved in the Housing Scheme and 65 per cent of the work relating to Hospital have been completed by 1958-59. 'W' Warehouse, 'J. Warehouse and Transit Depot had been completed. A number of items of new equipment were secured by the port.

*Cochin.*—Construction of warehousing for new wharf and a berth for a second tug have been completed by the end of March, 1959. Work relating to the construction of 4 additional wharves, and black oil installation at north end of Willingdon Island was nearing completion.

*Kandla.*—Work relating to cargo jetty 2700 ft. long with 4-deep water cargo berths, 3 transit sheds and 4 warehouses were completed except for a few finishing item. It had been planned to complete all the foundation piling work by the end of 1958-59 for the entire area of 2033 rft of two additional cargo berths. This work was started in 1957 and have to be suspended after completion of work on roughly half of the extension because of certain difficulties met with owing to varied nature of the soil in the remaining area.

*Vizagapatnam.*—Work connected with the establishment of Oil Refinery at Vizagapatnam was nearing completion. The Port acquired one Suction Dredger, one 10 ton cole mobile crane and one Diesel Tug. The construction of all the 300 units of Type 1 quarters was completed. About 50 per cent of the work relating to oil installation scheme was completed.

**Minor Ports and Light Houses**

During 1958-59, Paradip Port was opened as a lighterage port for handling traffic in iron ore. Among the important schemes in progress during the period mention may be made of Pondicherry Pier Project, development works at a number of minor ports in Saurashtra region in Bombay and at several other minor ports in the country. Various investigations and model tests were undertaken during the period in connection with the development of Tuticorin and Mangalore Ports.

In October, 1958 a Committee, namely the Intermediate Ports Development Committee was constituted by the Ministry of Transport & Communications for examining the problems regarding the development of Intermediate Ports in the country.

### INLAND WATER TRANSPORT

The country boat towing project of the Ganga Brahmaputra Water Transport Board started operations on the Patna-Chapra route—a distance of 33 miles, in January, 1958. The experiment was part of the Upper Ganga Pilot Project which is intended to test the feasibility of operating shallow draft craft on the Upper Ganga. The Joint Steamer Companies closed their Bihar services from 1st January, 1958. The question of replacement of these services in some form remained under consideration of the Government during the period. During the year 1958-59, the Government of India assumed financial responsibility in respect of the conservancy work on river Brahmaputra and for this purpose a sum of Rs. 5 lakhs was sanctioned to the Joint Steamer Companies for 1958-59. Not much progress could be made with the other schemes relating to Inland Water Transport mainly because the Inland Water Transport problems were being reviewed by the Gokhale Committee.

The Committee set up in 1957 under the Chairmanship of Shri B. K. Gokhale to inquire into the problems relating to development of inland water transport, made some interim recommendations during 1958 and the programmes for Inland Water Transport in the second plan were reviewed in the light of these recommendations.

### CIVIL AIR TRANSPORT

The progress of expenditure during the period under review is given in Appendix I to the Chapter.

**Civil Aviation Departmnet**

The difficulties of foreign exchange mainly accounted for the shortfall in expenditure under the head aeronautical communication service and air routes and aerodromes. The expenditure on research and development was almost negligible. Among the capital works completed during the year 1958-59 may be mentioned, the execution of SWP hangars at Dum Dum Airport, the construction of an apron and a taxi track at Santa Cruz Airport and the erection of a Butler Hangar at Bagdogra aerodrome. Among the new works taken in hand during 1958-59 include the construction of residential quarters for the staff at Mohanbari aerodrome, extension of the existing runway at Akola aerodrome, contruction of a sound proof Test bed at Safdarjung. The newly constructed aerodromes at Udaipur and Malda were opened to air traffic. The construction of aerodromes at Kandla and Haldwani (Phoolbagh) is nearing completion. The work on the construction of the aerodromes at Jogbani, Raxual, Behala and Tulihal are in progress. The newly constructed terminal building at Bombay airport which is the largest airport building in India was opened for traffic.

A new flying club was opened at Gauhati in June, 1958. No progress could be made regarding the development of gliding centres due to lack of foreign exchange.

Aerodromes maintained by the Civil Aviation Department as on 1st January, 1959 consisted of 3 International aerodromes, 8 Major aerodromes, 38 Intermediate aerodromes and 35 Minor aerodromes—a total of 84 aerodromes.

With the establishment of aeronautical communication stations at Jamshedpur and Madurai, the number of stations maintained and opened by the Civil Aviation Department as on 1st January, 1959, was 77.

## Indian Airlines Corporation

All the ten Viscounts scheduled to be purchased from abroad in the second plan, were now in service. With the introduction of these Viscounts all the routes served by Vikings were covered and the Viking aircrafts withdrawn. The Corporation's fleet operating at the end of 1958-59 consisted of 58 Dakotas, 5 Skymasters, 3 Herons and 10 Viscounts.

There was a steady increase in traffic, revenue and also the personnel employed during the period under review as will be seen from the following table:—

| | 1955-56 | 1956-57 | 1957-58 | 1958-59 | %age increase over the period (56-59) |
|---|---|---|---|---|---|
| 1. Total capacity ton miles produced (in million) . . | 51·58 | 55·11 | 56·99 | 64·07 | 24 |
| 2. Total revenue ton miles performed (in million) . | 36·40 | 37·92 | 39·99 | 45·26 | 24 |
| 3. Passengers carried (Lakhs) . | 5·00 | 5·71 | 6·00 | 6·53 | 31 |
| 4. Personnel employed (No.) | 9324 | 9254 | 9448 | 9463 | 1 |

The passenger fares were revised in the light of the recommendations of the Air Transport Council and brought into force wih effect from 15th June, 1958.

## Air India International

During 1958-59 two new Super Constellations 1049 G were purchased. With the addition of these the fleet strength of the Corporation totals upto 10 Super Constellations. The three Boeing 707 jet aircraft on order are expected to be delivered in January—March, 1960.

Considerable progress was made on the construction of workshops and offices at Santa Cruz during the period under review.

There was an appreciable increase in traffic, revenue and also in the personnel employed during the period under review as will be seen from the following table. However, the fall in passenger traffic was due to severe recession in the United States and Europe and by restrictions on air travel from India.

| | 1955-56 | 1956-57 | 1957-58 | 1958-59 | %age increase over period (56—59) |
|---|---|---|---|---|---|
| 1. Total capacity ton miles produced (in million) . | 35·24 | 43·57 | 50·66 | 56·01 | 59 |
| 2. Total revenue ton miles performed (in million) . . | 19·64 | 27·93 | 29·99 | 31·78 | 62 |
| 3. Passengers carried (Lakh) . | 0·56 | 0·80 | 0·88 | 0·84 | 50 |
| 4. Personnel employed (Nos.) . | 3395 | 3846 | 4266 | 4558 | 34 |

## COMMUNICATIONS

Communication services include postal, telegraph and telephone services, overseas communications and meteorology. Second plan originally provided Rs. 67 crores which has since been reduced to Rs. 57·4 crores. The progress of expenditure is shown in Appendix I to this chapter.

### Posts & Telegraphs

Details regarding progress of expenditure on schemes are given in the following table:—

(Rs. crores)

| Schemes | Plan provision | | Progress of expenditure | | | | expenditure during 1956-59 as % age of revised plan provision |
|---|---|---|---|---|---|---|---|
| | Original | Revised | 1956-57 | 1957-58 | 1958-59 | 1956—59 | |
| 1. Local Telephones Service . . . | 29·00 | 29·00 | 5·50 | 5·74 | 5·84 | 17·08 | 58·9 |
| 2. Trunk Cable & Cable Carriers . . . | 8·50 | 5·42 | 0·06 | 0·34 | 1·28 | 1.68 | 30·9 |
| 3. Buildings . | 10·00 | 6·91 | 1·01 | 0·70 | 1·06 | 2·77 | 40·0 |
| 4. Others . . . | 15·50 | 12·67 | 2·95 | 2·73 | 1·84 | 7·52 | 59·4 |
| TOTAL . | 63·00 | 54·00 | 9·52 | 9·51 | 10·02 | 29·05 | 53·8 |
| Percentage expenditure incurred to revised plan provision . | | | 17·6 | 17·6 | 1 ·6 | 5· 8 | |

The following table compares the targets of expansion of postal services with the actual results achieved:—

| Items | Second Plan Target | Average target per year | Progress of achievement during 1956-57 | 1957-58 | 1958-59 | 1956—59 |
|---|---|---|---|---|---|---|
| 1. Telegraph Offices (No.) . . | 1400 | 280 | 401 | 283 | 245 | 929 |
| 2. Public Call Offices (long distance) (No.) . . | 1200 | 240 | 201 | 145 | 218 | 564 |
| 3. New Exchanges (No.) . . | * | .. | 124 | 108 | 94 | 326 |
| 4. No. of Telephones . . | 1,80,000 | 36,000 | 37,000 | 32,000 | 41,200 | 110,200 |
| 5. Channel Mileage (telephones) | * | .. | 32,000 | 32,600 | 33,280 | 97,880 |
| 6. Channel Mileage (telegraphs) | * | .. | 28,200 | 14,000 | 29,800 | 72,000 |
| 7. Post Offices (No.) . . | 20,000 | 4,000 | 3,687 | 2,901 | 3,438 | 10,026 |

*Targets not fixed.

The progress in general was satisfactory. However, the difficulties standing in the way of undertaking development works continue to be shortage of men and materials, and shortage of foreign exchange, which compelled the Department to put in abeyance certain important schemes.

The restrictions imposed by the Ministry of Finance regarding the construction of buildings caused a serious set back to the building programmes. However, this ban was lifted in February, 1959.

**Indian Telephone Industries**

The following figures indicate the achievements with regard to main items:—

| Item of Production | Achievement during 1956-57 | 1957-58 | 1958-59 | 1956—59 |
|---|---|---|---|---|
| 1. Telephones (Nos.) . . . . . | 48,409 | 60,241 | 84,300 | 1,92,950 |
| 2. Exchange lines (Nos.) . . . . | 32,480 | 42,345 | 51,325 | 1,26,150 |
| 3. Single channel carriers (Nos.) . . | 61 | 31 | 11 | 103 |
| 4. Three channel carrier system (Nos.) . | 20 | 52 | 17 | 89 |

Emphasis was maintained not only on increased production but also on reduction in costs of production by work simplification, rationalisation and introduction of production incentives by stages. The sale proceeds during 1956-57 were Rs. 274·4 lakhs, Rs. 308·8 lakhs during 1957-58 and Rs. 334·5 lakhs (Estimates) during 1958-59. The number of personnel in position increased from 5159 as in March, 1958 to 5751 in March, 1959.

### Overseas Communications Service

The Overseas Communications Service has four gateway centres for handling international communications *viz.* Bombay, Calcutta, New Delhi, and Madras. The New Delhi centre brought into operation its new transmitting station at Kalkaji in February, 1958. The construction work at the new Receiving Station at Chattarpur had been completed; installation of equipment, serials etc. was in progress. The work regarding the provision of a radio centre for the Madras sub-marine cable station was being organised.

The new type of a radio telegraph service *viz.* leased teleprinter channels for private customers on rental basis which was introduced during 1957-58 was extended further in 1958-59. Four such channels were in use by the Airline Companies by the end of 1958-59.

At the end of 1958-59, India had 24 Wireless Telegraph Services, 24 Radio Phone Services, 10 Radio Photo Services and 4 leased channels directly operated to the most important countries in the world.

### Indian Meteorological Department

During 1956-58, the Kodaikanal Observatory was developed with additional equipment for steller, radio astronomical, ionospheric and magnetic work. Further progress was made towards the modernisation of the observatory and there were important additions to its instrumental equipment during 1958-59. The coronograph ordered from France and the large solar telescope ordered from England were received in October, 1958. During 1958-59 meteorological facilities were provided for Viscount service introduced by Indian Airlines Corporation. The work of extraction and tabulation of weather data continued. A Decca Storm Detecting Radar was installed at the Sonegaon Aerodrome, Nagpur and put into regular operation for December, 1958. The installation of a Decca Storm Detecting Radar on the terminal building at Meenambakkam Aerodrome (Madras) was completed except for the erection of the antena on the roof of the control tower. New equipments were received for modernisation and expansion of the workshops and laboratories at Poona and New Delhi.

## BROADCASTING

The second plan ceiling was reduced from Rs. 9 crores to Rs. 8 crores during the year 1958-59. This has resulted in the postponement of certain projects, *viz.* 100 KW SW transmitter at Delhi (for internal services), television centre at Bombay, etc. A sum of Rs. 1 crore was incurred during 1958-59. A 20 KW medium wave transmitter at Cuttack, 10 KW SW transmitter at Hyderabad (with temporary aerial facilities) and 10 KW SW transmitter at Bhopal were brought into service. A 100 KW SW transmitter (for external services) was brought into regular service at Delhi. However, no progress could be made in respect of 100 KW SW transmitter (2 Nos.) Delhi and 50 KW transmitter at Bombay, and 50 KW SW transmitter at Madras due to difficulties of foreign exchange. Over and above this certain other projects *viz.*, a 20 KW MW transmitter at Bombay, two KW SW transmitter at Delhi were completed but could not be put into commission because of certain technical difficulties. Construction of a permanent building to house the existing 7·5 KW SW transmitter at Srinagar was completed.

During 1958-59, three studio projects *viz.*, Calcutta studios—stages I & II (excluding multi-storeyed office building expected to be completed in 1959-60), Madras studios stage II and additional technical facilities for Jullundur studios were commissioned.

Some equipment for the experimental television service at Delhi was purchased from an indigenous source and some more equipment was received on loan from USA. UNESCO aid in the form of TV Community viewing receivers was received during 1958-59. A staff training school for the technical personnel of AIR was set up.

**Community Listening Scheme**

Steady progress was made in this scheme. During 1958-59, the total requirements of community receivers indented under the subsidy scheme amounted to 10500 numbers. With the completion of these supplies, 46767, community receivers along with auxiliaries would have been supplied to the various States since the introduction of the scheme in 1954-55.

## APPENDIX I

*Progress of expenditure on Transport & Communications during 1956—59*

(Rs. crores)

| Sl. No. | Heads | Plan Provision |  | 1956-57 | 1957-58 | 1958—59 | 1956—59 | Expenditure as % age of |  |
|---|---|---|---|---|---|---|---|---|---|
|  |  | Original | Revised | Actuals | Actuals | Actuals | Actuals | Original Plan Provision | Revised Plan Provision |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1 | Railways | 900·00 | 896·50 | 133·32 | 205·22 | 199·30 | 537·84 | 60 | 60 |
| 2 | Roads | 246·12 | 221·25 | 41·00 | 40·85 | 42·30 | 124·15 | 50 | 56 |
| 3 | Centre | 82·00 | 71·25 | 13·46 | 12·51 | 11·88 | 37·85 | 46 | 53 |
|  | A. (i) National Highways | 55·00 | 45·00 | 9·22 | 8·23 | 7·81 | 25·26 | 46 | 56 |
|  | (ii) Other Roads | 9·00 | 26·25 | 1·29 | 1·55 | 1·73 | 4·57 | 47 | 48 |
|  | (iii) Roads of Inter-State or Economic Importance | 18·00 |  | 2·95 | 2·73 | 2·34 | 8·02 |  |  |
|  | B. State Roads | 164·12 | 150·00 | 27·54 | 28·34 | 30·42 | 86·30 | 53 | 58 |
| 4 | Road Transport | 16·54 | 11·20 | 3·49 | 3·53 | 2·65 | 9·67 | 58 | 86 |
|  | A. Centre (DTU) | 3·00 | 2·10 | 0·55 | 0·50 | 0·23 | 1·28 | 43 | 61 |
|  | B. States | 13·54 | 9·10 | 2·94 | 3·03 | 2·42 | 8·39 | 62 | 92 |
| 5 | Ports & Harbours | 45·33 | 42·60 | 8·99 | 6·90 | 6·46 | 22·35 | 49 | 52 |
|  | A. Major Ports | 40·00 | 37·60 | 8·10 | 6·41 | 5·54 | 20·05 | 50 | 53 |
|  | B. Minor Ports | 5·33 | 5·00 | 0·89 | 0·49 | 0·92(RE) | 2·30 | 43 | 46 |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|
| 6 | Shipping | 47·69 | 5 73 | 8·97 | 7·67 | 10·01 | 26·65 | 56 | 47 |
|  | A. Shipping-Centre | 45·00 | 54·25 | ·97 | 7·27 | 9·74 | 25·98 | 58 | 48 |
|  | B. Sailing Vessels Industry | 0·40 | 0·40 | .. | .. | .. | .. | .. | .. |
|  | C. Marine Engineering College | 0·75 | 0·58 | .. | .. | 0·02 | 0·02 | 2·7 | 3·4 |
|  | D. Andaman Shipping | 1·54 | 1·50 | .. | 0·40 | 0·25 | 0·65 | 42 | 43 |
| 7 | Inland Water Transport | 3·00 | 1·42 | 0·02 | 0·02 | 0·07 | 0·11 | 4 | 8 |
| 8 | Other Transport | 7·39 | 5·47 | 0·47 | 0·70 | 1·19 | 2·36 | 32 | 43 |
|  | A. Light Houses | 4·00 | 3·23 | 0·23 | 0·39 | 0·70 | 1·32 | 33 | 41 |
|  | B. Tourism—Centre | 2·00 | 1.23 | 0·01 | 0·07 | 0·16 | 0·24 | 12 | 20 |
|  | Tourism—States | 1·39 | 1·01 | 0·23 | 0·24 | 0·33 | 0·80 | 58 | 79 |
| 9 | Civil Air Transport | 43·00 | 44·25 | 8·43 | 8·10 | 9·49 | 26·02 | 61 | 59 |
|  | A. Civil Aviation Department | 12·50 | 17·25 | 2·42 | 2·49 | 3·23 | 8·14 | 65 | 47 |
|  | B. Indian Airlines Corporation | 16·00 | 16·00 | 3·19 | 5·13 | 3·29 | 11·61 | 73 | 73 |
|  | C. Air India International | 14·50 | 11·00 | 2·82 | 0·48 | 2·97 | 6·27 | 43 | 57 |
| 10 | Communications | 67·00 | 57·40 | 10·06 | 10·06 | 10·51 | 30·63 | 46 | 53 |
|  | A. Posts & Telegraphs | 63·00 | 54·00 | 9·52 | 9·51 | 10·02 | 29·05 | 46 | 54 |
|  | B. Indian Telephone Industries | 0·50 | 0·50 | 0·12 | 0·12 | 0·12 | 0·36 | 72 | 72 |
|  | C. Overseas Communications Service | 2·00 | 1·80 | 0·18 | 0·27 | 0·19 | 0·64 | 32 | 36 |
|  | D. Indian Meteorological Department | 1·50 | 1·10 | 0·24 | 0·16 | 0·18 | 0·58 | 39 | 53 |
| 11 | Broadcasting | 9·00 | 8·00 | 1·73 | 1·07 | 1·09 | 3·80 | 42 | 48 |
|  |  | 1385·07 | 1344·82 | 216·48 | 284·12 | 282·98 | 783·58 | 57 | 58 |

## APPENDIX II

### *Achievement of Selected Physical Targets*

| Item | 1955-56 | Plan Targets | Achievement during |  |  | Percentage Achievement |
|---|---|---|---|---|---|---|
|  |  |  | 1956-57 | 1957-58 | 1958-59 |  |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| *Railways* |  |  |  |  |  |  |
| Passengers originating (millions) . | 1275 | Not fixed | 1350 | 1410 | 1428 | .. |
| Freight (m. tons) . | 114·0 | 162·0 | 124·1 | 132·4 | 134·8 | 43 |
| *Roads* |  |  |  |  |  |  |
| Surfaced Roads ('000 miles) . | 122·0 | 144·9 | 127·4 | 133·6 | 136·0 | 95 |
| Unsurfaced Roads ('000 miles) . | 198·0 | 235·0 | 201.0 | 224·0 | 247·0 | 93 |
| National Highways ('000 miles) . | 12900 | 13800 | 13060 | 13200 | 13350 | 97 |
| *Shipping* |  |  |  |  |  |  |
| Coastal & Adjacent (lakhs GRT) . | 2·4* | 9·00 | 2·38 | 2·62 | 2·50 | 72 |
| Overseas (lakhs GRT) | 2·4* |  | 2·89 | 3·24 | 3·97 |  |
| *Ports* |  |  |  |  |  |  |
| Traffic handled@ (m. tons) . | 24·04 | 33 | 27·21 | 31·06 | 28·75 | 85 |
| *Posts & Telegraphs* |  |  |  |  |  |  |
| Post Offices (Urban and Rural) (No.) | 55042 | 75042 | 58729 | 61636 | 65068 | 87 |
| Telegraph Offices (No.) . . | 5057 | 6457 | 5458 | 5741 | 5986 | 93 |
| Number of Telephones (No.) . | 278000 | 458000 | 315000 | 347000 | 388200 | 85 |
| Public Call Offices (long distance) (No.) . . | 1254 | 2454 | 1455 | 1600 | 1818 | 74 |

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*This does not include certain tonnage which was ordered in the first plan but put into commission later.

@Relates to major ports only.

## CHAPTER XII

## EDUCATION

The chief features of the period under review were the expansion of educational facilities at all stages particularly in the field of technical education; inquiry into the special problems of girls' and women's education; and adoption of a scheme to expand primary education and relieve educated unemployment in the country. The principal difficulties encountered in executing various educational programmes were the scarcity of trained teachers at all levels, shortage of equipment, and late finalisation of the details of a number of schemes.

### PROGRESS OF EXPENDITURE

Progress of expenditure during the first three years of the second plan is given in the following table:

(Rs. crores)

| Sub-head | Plan Outlay (Revised) | Expenditure | | | Total Cols. 3+4+5 | Col. 6 as percentage of Col. 2 |
|---|---|---|---|---|---|---|
| | | Actuals 1956-57 | Actuals 1957-58 | Actuals 1958-59 | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1. Elementary Education . . | 93·01 | 6·14 | 12·65 | 17·01 | 35·80 | 38·5 |
| 2. Secondary Education . . | 49·09 | 4·16 | 6·44 | 8·74 | 19·34 | 39·4 |
| 3. University Education . . | 46·48 | 4·90 | 5·08 | 10·12 | 20·10 | 43·2 |
| 4. Technical Education . . | 51·23 | 5·36 | 6·83 | 8·33 | 20·52 | 40·1 |
| 5. Social Education | 5·00 | 0·56 | 0·73 | 0·70 | 1·99 | 39·8 |
| 6. Other programmes . . | 32·13 | 2·82 | 3·83 | 4·60 | 11·25 | 35·0 |
| | 276·94* | 23·94 | 35·56 | 49·50 | 109·00 | 39·4 |

*Includes Rs. 1·94 crores transferred from the Ministry of Rehabilitation.

### TARGETS AND ACHIEVEMENTS

A summary statement of the principal targets and achievements during the first three years of the second plan is given as an appendix to this chapter. Salient features of the progress during 1958-59 are reviewed in the following paragraphs.

## Elementary Education

By 1958-59 about 50 lakh additional children were enrolled in primary classes. With this additional enrolment, the percentage of pupils in classes I—V to the total number of children in the age groups 6—11 rose from 52·1 in 1955-56 to about 58 in 1958-59. By 1958-59 about 11 lakh additional children were enrolled in middle classes as against the plan target of about 13 lakhs.

Although the number of girls attending elementary schools had increased, the disparity between the number of boys and girls in the age group 6—14 years attending schools continued to be wide. To rectify this situation a scheme for the expansion of girls education and training of women teachers was formulated in 1957-58. This scheme provided for the establishment of new girls schools, provision of attendance scholarships for girl students, the construction of rent free quarters for women teachers particularly in rural areas, appointment of school mothers, and payment of stipends to women for teachers' training courses. In the initial year the scheme made little progress. In 1958-59 the programme was stepped up and the expenditure increased to Rs. 30·8 lakhs from Rs. 0·9 lakhs in the preceding year. Under this scheme Central Government provides 75 per cent of the expenditure involved. The State Governments are authorised to utilise the Central assistance even if they are not in a position to contribute their share of 25 per cent. One of the important features of the scheme is that the Central assistance to the States is worked out in proportion to the number of girls in the age-group 6—14 not attending schools in each State.

A National Committee on Women's Education was set up to inquire into the special problems of girls' and women's education and to suggest measures to make up the leeway. The Committee recommended, *inter alia,* that attendance scholarships should be offered as incentives; hostels and staff quarters on a larger scale ought to be constructed; and funds, in addition to those already provided in the plan, should be earmarked for the promotion of girls' and women's education. The setting up of a permanent National Council of Education of Girls and Women was also advised.

The twin-aimed scheme of relief of educated unemployment and expansion of primary education was initiated in the middle of 1958-59. Under this scheme, 60,000 teachers are proposed to be appointed; 15,000 in 1958-59, 20,000 in 1959-60 and 25,000 in 1960-61. The scheme also provides for the construction of 6,000 quarters for women teachers and appointment of 1,200 inspecting officers. In late 1958-59, 12,000 teachers were appointed. The distribution of teachers to the States and Union Territories, under the scheme, is generally worked out in proportion to the number of children in the age-group 6—14 not attending school.

A new scheme was formulated in 1958-59, to improve the teaching of science at the elementary stage. The scheme is to be instituted as a 'pilot project' in a selected area in each State. Government of India have agreed to meet the entire cost of the scheme.

Owing to non-availability of funds and other reasons, it was realized that it would not be possible to provide free and compulsory elementary education upto the age of 14 within the period set out in Article 45 of the Constitution. It was, therefore, decided that the programme should be phased and the first stage *i.e.* the introduction of universal, free and compulsory education for all children of the age group 6—11, completed by 1965-66. To gain experience, prior to the launching of the programme on a countrywide basis, the State Governments/Administrations of Union Territories were advised by the Central Ministry of Education to initiate pilot projects for provision of compulsory primary education in selected community development blocks. Such pilot projects were started in the States of West Bengal and Bombay.

Educational survey of India, undertaken by the Central Ministry of Education with the co-operation of States with a view to rationalising the basis of location of existing as well as new schools, was completed in all the States (except in West Bengal, where the State Government did not participate). The Survey yielded much data of value to the State Governments and local authorities. The survey has been conducted for the first time of each rural habitation. The survey revealed that as against the total number of 8·4 lakh rural habitations, with a population of 27·96 crores, the number of rural 'habitations' not served by any school was 2·4 lakhs with a population of 4·72 crores. On the basis of these findings, action is proposed to be taken during the Third Plan to provide schooling facilities in such areas.

## Basic Education

The expansion of basic education programmes, when compared to the expansion of facilities at the elementary stage, has been slow chiefly because of difficulties of finance and trained personnel. It was felt that the existing elementary schools should at least be reoriented towards the basic pattern so that those elements of basic education which do not cost much and did not require elaborate training might become a part of the whole elementary education system. A national programme of orientation of elementary non-basic schools towards the basic pattern was therefore, drawn up. A number of regional seminars of district/divisional inspectors of schools and of teachers of elementary schools were organised during the year under report to accelerate the pace of orientation.

The National Institute of Basic Education made significant contributions in the field of research, training, production of literature, craft and art work. Two short-term training courses were organised by the Institute and a craft and art section was established where experiments were conducted in the utilisation of fibre craft and inexpensive and waste material for craft work.

## Secondary Education

Programme of secondary education had progressed satisfactorily. The plan target was exceeded in respect of number of additional institutions, while the number of pupils attending schools was 86·9 per cent of the target. The progress towards achieving the plan targets laid down for converting high schools into higher secondary and multi-purpose schools was quantitatively very good but the quality left much to be desired.

The All India Council of Secondary Education, which was re-organised into a 'Directorate of Extension Programmes in Secondary Education' under the Central Ministry of Education, continued its various activities like examination reforms, strengthening of science teaching and experimental schools. Facilities for in-service training of secondary school teachers continued to be provided through various extension service departments established in teachers' training colleges. A full fledged examination unit with 15 trained Evaluation Officers was set up to conduct the work relating to examination reform at the secondary stage. Thirteen seminars of headmasters and education officers were sponsored and in addition 31 subject-teachers' seminars were organised. In order to encourage science teaching in secondary schools about 350 science clubs were opened in training colleges and secondary schools.

Under the scheme 'promotion of research in problems connected with secondary education,' 29 research projects were financially assisted during 1958-59. To improve the standard of English teaching in secondary schools, a Central Institute of English was established at Hyderabad.

**Higher Education**

The second plan target of setting up 7 universities had been achieved by the end of 1958-59. The number of college/university students had risen from 7·36 lakhs in 1955-56 to about 9 lakhs in 1958-59.

The University Grants Commission continued directing and assisting improvement and development programmes of the Universities and incurred an expenditure of Rs. 4·69 crores during 1958-59 as against Rs. 1·92 crores in 1957-58 and Rs. 2·18 crores in 1956-57. Extension of libraries, laboratories and buildings constituted the major content of these programmes. Progress in this field was, however, impeded due to the shortage of foreign exchange resources, and the inability of universities/State Governments to provide the matching funds. For the improvement of salary scales of university/college teachers a sum of Rs. 9·67 lakhs was allocated to 20 State Universities and Rs. 17 lakhs to 267 colleges during 1958-59.

By the academic year 1958-59, 20 Universities had introduced the scheme of three year degree course. The total number of colleges converted to the three year degree course pattern would reach 280 as against the plan target of 540.

During 1958-59, Rs. 5.22 lakhs were spent in connection with the 'Post-Matric scholarships' scheme which provides for an award of 200 scholarships annually. By the end of 1958-59, 733 students had benefited from the scheme.

In view of the fact that the foundation of the three Universities of Calcutta, Bombay and Madras in 1857 marked the beginning of modern education in India, the University Grants Commission decided that suitable commemoration of the centenary of these Universities would justify a special grant of Rs. 1 crore to each of them. During 1956—59, Rs. 1·07 crores were given as grants to these Universities.

Under the India Wheat Loan educational exchange programme, $ 372,000 were allocated to 20 universities and 4 non-university institutions for the purchase of scientific equipment, $ 216,000 to 21 universities and 12 non-university institutions for purchase of books and $193,000 for the exchange of personnel between India and the U.S.A.

Four out of 10 Rural Institutes, established during the first year of the second plan started additional courses in Rural Service in 1958-59. In April-May 1958, the National Council of Rural Higher Education conducted its first examination in which 77 candidates appeared for the two-year certificate course in agricultural service.

**Technical Education**

The establishment of 8 additional Engineering Colleges and 22 additional polytechnics had been originally proposed in the second plan. To ensure an adequate supply of personnel for the execution of plan projects, the Planning Commission appointed an Engineering Personnel Committee to assess the requirements of engineering personnel and to review the proposed target. The Committee reported (May 1956), that even if all the schemes of technical education included in the Plan were satisfactorily implemented, a big gap would remain by the end of 1960-61 between the demand for and the supply of graduates and diploma holders in engineering. In order to bridge the gap the Committee recommended that the existing facilities should be further expanded and some additional engineering colleges and polytechnics should be established to provide for additional seats for degree and diploma courses. The position was further reviewed by the Ghosh-Chanderkant Committee, which recommended expansion of training facilities in technical institutions generally in addition to the establishment of new institutions. In determining the revised target for the second plan, recommendations of both Committees were taken into account. The following table gives original and revised targets for the second plan:—

| | Engineering Colleges | | Polytechnics | |
|---|---|---|---|---|
| | Number | Intake capacity | Number | Intake capacity |
| (*i*) Position in 1955-56 . . . . | 64 | 5,937 | 102 | 9,397 |
| (*ii*) 1960-61 (original Plan Additional Targets) . . . . . | 8 | 1,010 | 22 | 2,600 |
| (*iii*) 1960-61 (Revised targets inclusive of the private efforts and the recently approved programmes) . . . | 27 | 7,563 | 91 | 15,603 |
| (*iv*) Position in 1960-61 . . . . | 91 | 13,500 | 193 | 25,000 |

Progress of technical education during the first plan, and first three years of the second plan, together with the revised target is indicated below:—

*Progress of Technical Education*

| Year | Engineering & Technological Colleges | | | Polytechnics | | |
|---|---|---|---|---|---|---|
| | No. of Institutions | Sanctioned intake | Out-turn | No. of Institutions | Sanctioned intake | Out-turn |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1950 . . | 49 | 4119 | 2198 | 86 | 5903 | 2478 |
| 1955 . . | 64 | 5937 | 4017 | 102 | 9397 | 4072 |
| 1956 . . | 74 | 6632 | 4293 | 111 | 10242 | 4075 |
| 1957 . . | 74 | 9778 | 4290 | 129 | 15995 | 5031 |
| 1958 . . | 83 | 11086 | 4665 | 157 | 19932 | 6345 |
| 1960 (Revised Targets) . | 91 | 13500 | 5310 | 193 | 25000 | 10397 |

The incorporation of the Indian Institute of Technology, Kharagpur, the first Higher Technological Institute set up in the country, as an institute of national importance by an Act of Parliament in 1957 marked an important step in the development of the Institute. By the end of 1957-58, one of the three Higher Technological Institutes proposed to be started during the second plan was established at Bombay. The Higher Institute of Technology, Madras was established in 1959-60 and the Institute at Kanpur is proposed to admit students in 1960-61.

Another significant institutional development in technological education was the decision of the Government of India in May, 1958 to give the status of a university to the Indian Institute of Sciences, Bangalore for the purposes of the U.G.C. Act, 1956 which empowers the institute to confer degrees. On the basis of the recommendations of the Reviewing Committee, emphasis has now been laid on the consolidation of the institute rather than its expansion. In pursuance of this policy sufficient provision was made during the year in block grant to provide scholarships for 80 per cent of research and 60 per cent of post-graduate students.

Under the scheme 'Research training scholarships and national research fellowships', the second plan target of 800 research training scholarships and 80 fellowships was realised by the end of 1958-59.

In addition to the funds specifically earmarked for technical education, the University Grants Commission also assisted the development of post-graduate and under-graduate courses of engineering and technology in the University departments/colleges with financial grants which amounted to Rs. 2·19 crores during the first three years of the second plan.

## Social Education

An expenditure of about Rs. 70 lakhs was incurred during 1958-59 on various schemes relating to social education including opening of literacy/social education centres, publication of literature, audio-visual education, libraries and Janta Colleges. National Fundamental Education Centre, although established during 1956-57, began its full programme of activities in 1958-59 only. Two batches of 16 and 22 trainees received District Social Education Organiser's training in the year under review. Rs. 1·65 lakhs were spent in 1958-59 on various activities of the Centre. Social education programmes also continued to be implemented under C.D. & N.E.S. programme.

### Scholarships for Scheduled Castes, Scheduled Tribes and other Backward Classes

During 1958-59 a sum of Rs. 50 lakhs was spent on this scheme as against Rs. 86·5 lakhs expended during 1956—58. The number of scholarships awarded is shown in the following table:

| Category of Scholars | Number of students awarded scholarships under the scholarship scheme for Backward Classes | | | |
|---|---|---|---|---|
| | 1956-57 | 1957-58 | 1958-59 | Total |
| 1 | 2 | 3 | 4 | 5 |
| 1. Scheduled Castes . . . . . | 21,525 | 25,400 | 31,250 | 78,175 |
| 2. Scheduled Tribes . . . . . | 3,505 | 4,400 | 5,000 | 12,905 |
| 3. Other Backward Classes . . . | 14,230 | 12,400 | 12,500 | 39,130 |
| TOTAL . . . | 39,260 | 42,200 | 48,750 | 130,210 |

### Labour & Social Service Camps

Progress of this scheme during the first three years of the second plan is shown in the following table:—

| | 1956-57 | 1957-58 | 1958-59 | 1956—59 |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| 1. Expenditure (Rs. lakhs) . . . | 53·84 | 46·44 | 58·50 | 158·78 |
| 2. Targets achieved : | | | | |
| (*i*) No. of camps sanctioned . . . | 1,067 | 995 | 1,490 | 3,552 |
| (*ii*) No. of campers . . . . | 1,03,226 | 1,11,926 | 1,50,000 | 3,65,152 |
| (*iii*) No. of campus/works Project completed . . . . . | 101 | 106 | 216 | 423 |

### Cultural Programmes

During the year 1958-59 a sum of Rs. 50·74 lakhs was spent on cultural schemes, such as, museums, archaeology, etc. as against an expenditure of Rs. 65·78 lakhs incurred during the first two years of the plan out of the second plan provision of Rs. 435 lakhs.

### Development of Hindi, Sanskrit and other Languages

Development schemes like propagation of Hindi, preparation of Hindi encyclopaedia and terminology, holding of seminars of Hinidi teachers, prizes on Hindi books, revival of Sanskrit and development of regional languages etc. were also implemented during the year under report. Progress of expenditure on the development of languages is indicated below:—

(Rs. lakhs)

| | Plan provision 1956—61 | Expenditure 1956-57 | 1957-58 | 1958-59 |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| 1. Development of Hindi . . . | 154 | 3·86 | 8·27 | 12·00 |
| 2. Development of Sanskrit . . . | 48 | 3·94 | 4·44 | 9·05 |
| 3. Development of other languages . | 51 | 0·90 | 1·36 | 4·49 |

## Salary Scales of Teachers

Second Plan envisaged higher salaries and improved service conditions for teachers. In pursuance of this recommendation, the salary scales of teachers were enhanced. The expenditure incurred is indicated below:—

(Rs. crores)

| | Plan provision 1956—61 | Expenditure 1956-57 | 1957-58 | 1958-59 | Total 1956—59 |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| Elementary School Teachers . | 21·95 | 1·14 | 3·71 | 4·87 | 9·72 |
| Secondary School Teachers . | 5·92 | 0·38 | 0·77 | 1·55 | 2·70 |

## APPENDIX

*Principal Physical Targets and Achievements*

| Item | Unit | Position in 1955-56 | Target 1960-61 | Achievement in 1956-57 | Achievement in 1957-58 | Achievement in 1958-59 | Col. 7 as % of Col. 4 |
|---|---|---|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| 1. *Schooling facilities for children of different age groups* | | | | | | | |
| (*a*) 6–11 . . | Lakhs | 251·86 | 329·14 | 267·14 | 282·97 | 300·56 | 91·3 |
| (*b*) 11–14 . . . | „ | 42·96 | 55·88 | 46·44 | 50·24 | 54·29 | 97·1 |
| (*c*) 14–17 . . . | „ | 19·79 | 27·46 | 21·00 | 22·21 | 23·87 | 86·9 |
| 2. *Institutions* | | | | | | | |
| (*a*) Primary/Junior Basic Schools . . | ('000) | 278·1 | 330·9 | 287·3 | 297·4 | 311·9 | 94·2 |
| (*b*) Junior Basic Schools | „ | 43·0 | 70·4 | 46·9 | 51·6 | 59·0 | 83·8 |
| (*c*)Middle/Senior Basic Schools . . . | „ | 21·7 | 25·2 | 24·5 | 26·2 | 28·3 | 112·3 |
| (*d*) Senior Basic Schools | „ | 4·8 | 10·8 | 6·9 | 7·6 | 8·3 | 76·8 |
| (*e*) High/Higher Secondary Schools . . | „ | 10·8 | 12·4 | 11·8 | 12·5 | 13·2 | 106·4 |
| (*f*) Multipurpose Schools | (Nos.) | 367 | 1304 | 575 | 830 | 1,135 | 87·0 |
| (*g*) High Schools to be upgraded to higher Secondary schools | (Nos.) | 77 | 1500 | 440 | 742 | 1,485 | 99·0 |
| 3. *Teacher Training* | | | | | | | |
| (*a*) Training Schools (Total) . . . | (Nos.) | 930 | 1,161 | 963 | 996 | 1,037 | 89·3 |
| (*b*) Basic Training Schools . . . | „ | 520 | 828 | 582 | 614 | 732 | 88·4 |
| (*c*) Training Colleges (Total) . . . | „ | 107 | 137 | 137 | 141 | 146 | 106·6 |
| (*d*) Basic Training Colleges . . . | „ | 29 | 67 | 38 | 42 | 44 | 65·7 |
| 4. *Engineering and Technology* | | | | | | | |
| (*a*) Colleges | (Nos.) | 64 | 91 | 74 | 74 | 83 | 91·2 |
| Sanctioned intake . . . | „ | 5937 | 13500 | 6632 | 9778 | 11086 | 82·1 |
| Out-turn . . . | „ | 4017 | 5310 | 4293 | 4290 | 4665 | 87·8 |
| (*b*) Polytechnics . | „ | 102 | 193 | 111 | 129 | 157 | 81·3 |
| Sanctioned intake . | „ | 9397 | 25000 | 10242 | 15995 | 19932 | 79·7 |
| Out-turn . . . | „ | 4072 | 10397 | 4075 | 5031 | 6345 | 61·0 |

## CHAPTER XIII

## SCIENTIFIC AND TECHNOLOGICAL RESEARCH IN INDIA

During the year 1958-59, scientific and technological research activities, as in the previous years, was undertaken in India by the national laboratories, higher technological institutes, specialised research institutes, scientific societies and associations, government departments and universities. Engineering research, which had so far been neglected, began to receive some attention and encouragement. Science and scientific development as a whole came to the fore as a result of the enunciation of the Scientific Policy Resolution by the Government of India. A Conference of scientists, educationists and other experts was held in July, 1958 to consider the question of implementing the Scientific Policy Resolution. The Conference made concrete recommendations with regard to recruitment and retention of science teachers and research workers at various levels, search for scientific talent at high school level, research versus immediate employment, textbooks, instruments, documentation work, etc.

### Council of Scientific and Industrial Research

As a result of the bifurcation of the former Ministry of Education and Scientific Research, the Council of Scientific and Industrial Research (C.S.I.R.) was linked with the Ministry of Scientific Research and Cultural Affairs.

During the year 1958-59, concentrated efforts were made by the Council to translate the results of laboratory research into the pilot plant stage. The commercial feasibility of processes for the manufacture of steel by the L.D. process, graphite crucibles, vitamin C, wheat and macaroni products, rice-bran oil and activated carbons was established by trials on sufficiently large scale.

During the first 9 months of the year, 16 pilot plants were set up in different national laboratories. Some of the products and processes tried out on these pilot plants were:—magnetic fluid (for detection of cracks in metals), carbon electrodes, optical glass, integrated utilisation of oilseeds like groundnut, dairy salt, hand-made paper, dehydrated castor oil, fatty acid distillation, chlorinated turpentine and activation of fuller's earth. In most of the cases, the design, fabrication and erection of pilot plants was undertaken by the laboratories themselves.

The national laboratories have begun to play a conspicuous role in the development projects of the Second Plan. They have rendered valuable assistance in the development of refractories, leather, heat-insulating bricks, indigenous coal resources for steel manufacture, petroleum, and natural gas products. Attempts were made to establish close liaison between the national laboratories and industries on an increasing scale. An Industrial Liaison Office was established at Jaipur. This supplemented the liaison staff already working at Madras, Bombay and Calcutta. During the year under review, 80 Chambers of Commerce and Associations of Industries, 135 prominent industrialists, many government departments in the Centre and States and 2553 factories were contacted by the liasion staff. Investigations on 25 specific problems were undertaken at the national laboratories at the instance of industry. For collecting factual information in regard to various industries in India, a programme of "case studies of industries" was initiated, a beginning being made with the chemical industry.

Nineteen national laboratories and institutes were functioning during the year. Land for the main buildings and staff quarters of the Central Mechanical Engineering Research Institute was acquired at Durgapur with the help of the Durgapur Steel Administration. The Bombay Government agreed to allot adequate land at Nagpur for the Central Public Health Engineering Research Institute.

With the co-operation of the Council, the Indian Rubber Manufacturers' Research Association was registered and expected to start functioning shortly with its office at Delhi. Steps were under way for registering the Indian Paint Manufacturing Research Association which would function in collaboration with the Council.

Plans for setting up 5 field centres for public health engineering were under consideration. A scheme for establishing 6 main and 4 sub-regional stations in various parts of India for fruit and vegetable preparation was approved. The number of Essential Oils Research Centres was raised this year to 5. The Rain and Cloud Physics Research Unit at New Delhi planned to undertake rain making experiments in specified clouds in collaboration with the Indian Air Force.

The scheme for award of Junior and Senior Research Fellowships for work in national laboratories and C.S.I.R. sponsored research schemes was extended to individual scientists who were in need of assistance for carrying out investigations on problems of their choice. During the year under review, 34 Junior and 16 Senior Fellowships were awarded in national laboratories in addition to 183 Junior and 54 Senior Fellowships under C.S.I.R. sponsored research schemes. Awards of Fellowships were also made to other scientific institutions, universities, laboratories and post-graduate departments of colleges. Grants-in-aid to 4 retired scientists were continued during the year for pursuit of scientific investigations.

The Committee on Utilisation of Agricultural Wastes and Food Wastes held 4 meetings during the year and considered the question of economic utilisation of wastes obtained from tabacco, food processing industries, slaughter houses, fish, cotton linters and tea. It also collected information on the availability of bagasse, linseed stalk and jute waste. The work relating to the popularisation of science was transferred to the Vigyan Mandirs Section of the Department of Scientific Research and Technical Education (Ministry of Education and Scientific Research).

During the year, 310 sponsored research schemes were functioning at 88 different institutions; of these 96 new schemes were sanctioned during the year and 214 were renewed. The total number of technical staff working under sponsored research schemes was 386. The provision made under sponsored research, research centres and block grants was Rs. 27·66 lakhs. Out of this a sum of Rs. 3·88 lakhs was set apart for making block grants in respect of research work on protection of timber against marine organisims, dyestuffs technology, algae, coal blending and coking and wind tunnel. In addition to the above, 17 research schemes sponsored by outside agencies such as the Department of Atomic Energy, Tea Board, Coffee Board, I.C.A.R., were undertaken at the various national laboratories.

Forty-two processes, developed as a result of investigations carried out in national laboratories and under sponsored research schemes, were leased out to Industry for commercial development; of these, 29 were made available free of charge. 35 offers were received from industries for exploiting C.S.I.R. processes. These were under the consideration of the National Research Development Corporation. A sum of Rs. 43,487 was received during the year from the NRDC as the Council's share of the royalties and premia on CSIR processes. 60 patent applications based on results of research achieved were filed upto the middle of October, 1958, of which 22 were filed in foreign countries. Out of these 48 Indian and 3 foreign patents were accepted. The number of patents sealed in India during the year was 36. One patent was sealed in the U.S.A.

A scheme for the creation of a Scientists' Pool for temporary placement of highly qualified Indian scientists and technologists returning from abroad was approved by the Government of India for administration by the CSIR. A Committee consisting of the Director-General as Chairman and representatives of various Central Ministries, the University Grants Commission and private industry was constituted to advise the Council in this connection. The authorised strength of the Pool was to be 100 to start with, of which about 25 would be reserved for persons trained in India itself.

The CSIR participated in all the 13 geophysical disciplines included in the programme of the Inter-national Geophysical Year (IGY). The disciplines consisted of meteorology, geomagnetism, aurora, airglow, ionosphere, solar activity, cosmic rays, longitude and latitude, glaciology, oceonography, seismology, gravimetry and satellite. Observations were regularly taken at some 60 stations (in addition to the existing meteorological network) distributed all over India. Data collected in India were sent to several International centres so that these would be available to any nation and any scientist. The IGY which was to end on 31st December, 1958 was extended for one year under the new name International Geophysical Co-operation 1959.

A few of the major achievements and important results obtained in the Council's laboratories during the year are detailed below:—

### *Central Glass and Ceramic Research Institute, Calcutta*

This Institute successfully produced optical glass for the first time in India from indigenously available raw materials utilising equipment designed and fabricated at the Institute. Samples of optical glass produced at the Institute were examined and reported to be satisfactory by competent authorities. Processes for the production of certain ceramic and glass articles, which have been developed by the Institute were not being utilised in India due to inadequate demands. The production of such articles was being undertaken at the Institute itself. The process for production of red glass bangles by using copper instead of selenium was demonstrated to glass bangle manufacturers at Firozabad. They were satisfied with the process and promised to utilise it.

*National Metallurgical Laboratory, Jamshedpur*

Nickel-free coinage alloy compositions based on indigenously available elements like chromium, manganese and copper were developed at this Institute. Steel from Indian pig iron was produced in one step in the L.D. converter designed and fabricated at the Laboratory. A semi-pilot plant for beneficiation of 2 tons of low-grade manganese ore per day was commissioned during the year. An economic process for the manufacture of carbon bonded graphite crucibles developed at the Laboratory was leased out to Industry for commercial development. Processes for the production of mullite refractories from bladed kyanite, magnesite refractories from Almorah ore deposits and stabilised dolomite were also worked out at the Laboratory.

*Central Fuel Research Institute, Jealgora*

Systematic investigations on coking and blending of coal were carried out at this Institute in order to develop suitable blends which would meet metallurgical needs. The results so obtained were utilised by the steel plants in the public sector. Promising results were obtained as a result of research work done at the Institute for converting low-grade high-ash coals into synthesis gas and synthetic oil. Oxidised Assam coal was shown to be useful for reclamation of alkaline soil. The Institute was undertaking evaluation tests on behalf of the Oil and Natural Gas Commission on petroleum crudes obtained from Naharkatiya (Assam) and Cambay (Saurashtra). The Institute was also being equipped for undertaking research work relating to the analysis and utilisation of natural gas and petroleum.

*Central Food Technological Research Institute, Mysore*

Production of tapioca macaroni on a pilot plant scale was continued at the Institute. About 130 tons of this product was bought by the Government of Kerala. Wheat macaroni manufactured in various forms by the Institute was sold to private agencies. A process for the manufacture of protein-rich biscuits developed at the Institute was commercially utilised by the Britannia Biscuit Co. The Institute also developed a simple Baudouin test which enables a purchaser to detect the presence of vanaspati in ghee without the aid of any laboratory facilities. Among other achievements of the Institute, mention may be made of the development of a cheap commercial scale process for long and effective storage of grains in jute bags, methods for the production of active dry yeast from cane juice molasses, strained baby food powder from fruit pulps and roller dried infant food and buffalo milk.

*National Physical Laboratory, Delhi*

This laboratory developed an electronically operated automatic traffic control device. A group hearing aid for use in the schools for the deaf designed and fabricated at the Institute was undergoing field tests.

*Central Building Research Institute, Roorkee*

Studies for determinig the proper orientation of buildings to achieve the maximum thermal efficiency were undertaken by this Institute. A thermal comfort atlas for 120 places covering all the States in India was prepared. The Atlas is expected to give precise climatic zoning of India and variations of the comfort period during the year. These data will be of use in designing buildings.

### *Central Electro-chemical Research Institute, Karaikudi*

This Institute initiated field investigations at Karaikudi, Mandabam camp and Madras Port for collecting specific data on corrosion of metals and metallic couples in tropical rural, tropical marine and industrial marine atmospheres. Experiments carried out at this Institute on 304 and 201 stainless steels, of which the evaporators at the Sindri Fertiliser Factory are made, showed that stress corrosion cracking could be successfully, counteracted by cathodic protection using currents of the order of several microamperes only. This method was recommended to the Sindri authorities. The electroplating training course organised by the Institute during April—June 1958 proved so successful that many industrialists expressed their desire to have the benefit of the course. It was proposed to organise a similar course in 1959 also.

### *Central Electronics Engineering Research Institute, Pilani*

Prototypes of magnetrons, comparable in performance to commercially imported models, suitable for use in radar equipment were fabricated by this Institute. Prototypes of high quality dynamic microphones utilising indigenously available materials were also designed and constructed. Experiments carried out on the technique of miniaturisation yielded encouraging results.

### *Indian Institute of Biochemistry and Experimental Medicine, Calcutta*

This Institute evolved a serological test procedure for detecting leprosy which is expected to be of value in preventing the spread of leprosy through infected contacts. Experiments conducted at the Institute showed that the formation of new types of nucleo-proteins precede the course of some of the diseases of parasitic origin like small-pox, influenza, poliomylitis, etc. A method for the preparation and purification of chorionic gonadotrophic hormones from the urine of pregnant woman was also worked out by the Institute.

### *Regional Research Laboratory, Hyderabad*

A composition of cashew nut shell liquid and oleoresinous varnish was developed at this Institute for application on textile bobbins. This composition was tested by the Swastik Bobbin Manufacturing Co. About 300 kilograms Hykolo "X", a new brand of activated carbon suitable for bleaching castor oil, certain pharmaceuticals, glycerine, etc. was produced on pilot plant scale at this Institute and supplied to Messrs. I.A.E.C. for factory trials. Processes developed at the laboratory for the production of calcium gluconate and dehydrated castor oil were leased out to private firms for commercial use. The problem of preparing cadmium sulphide "Orange"—of different shades of colour—which was referred to the Laboratory by Messrs. Indo-Commercial Corporation, Ferozabad was solved successfully and a sample supplied to the firm was approved. The Laboratory also succeeded in producing hand-made paper of high uniformity, whiteness, printability and freedom from specks as well as filter paper of good quality using new white rags.

### *Regional Research Laboratory, Jammu*

India has no indigenous sources of Menthol and the entire quantity—worth about rupees one crore annually—is being imported. In order to meet this demand, this Institute has successfully introduced into Jammu from Japan an exotic plant *Mentha arvensis* var. *piperascens* Holmes. An economic process for the preparation of ascariodle, which is an excellent drug for treating hookworm and round-worm infestations, from local chenopodium oil was worked out by the laboratory. A large number of samples of *Dioscorea deltoidea* obtained from Jammu and Kashmir, Kangra and Kulu valleys were supplied to Indian and foreign pharmaceutical firms for studying the possibility of manufacture of cortisone and steroid sex hormones. Samples of diosgenin prepared from *Diascorea deltoidea* by the Laboratory itself by a special patented process were also supplied to these firms for comparative study.

### *Central Salt Research Institute, Bhavnagar*

This Institute evolved a simple process whereby pure sodium sulphate could be obtained at a cheap rate from the earthy material—*khari* soil—found in Bihar. The Institute showed that magnesium oxychloride can be used as a binding material in the preparation of briquettes from coal and charcoal powders. The Institute has also evolved a simple process for upgrading marine gypsum to 99 per cent purity.

### *National Botanical Gardens, Lucknow*

The most important achievement of this Laboratory during the year was the discovery of a biological method for reclamation of *usar* land. In the past all attempts to reclaim alkaline soils had failed mainly due to the cost factor. The method developed eliminates the use of expensive chemicals and takes the help of only accumulated rain water and algal growth introduced in water-logged fields. Extensive areas of *usar* land were reclaimed by this method at the Banthra Farm (Dist. Lucknow). A plant introduction section was set up at Banthra for introducing and cultivating plants of foreign origin. The systematic checking and identification of about 1500 Australian plants received by purchase was undertaken. Over 5000 specimens were brought by collection parties sent out to Pindari Glacier, Ladakh, Rajasthan and other places. A special laboratory was constructed for carrying out research work on *cacti* and *succulents.*

### *Central Mining Research Station, Dhanbad*

Numerous samples of mine air, mine gas, mine dust, loco exhaust gases and stone dust collected from different private collieries in Jharia, Raniganj, Disergarh, Asansol and Ondal areas were analysed by this Institute to ascertain the quality and efficiency of ventilation system provided in mines. Such analytical work was done on behalf of the National Coal Development Corporation and Department of Mines. Side by side, studies on different aspects of ventilation were continued in model tunnels set up in the laboratory. Testing of flame safety lamps (new types) and of electric caps and hand pumps made in India was also undertaken to determine their safety, lighting efficiency, constructional strength and quality. Some samples of fire-resistant conveyor belts were tested and reports submitted to the Department of Mines.

### *Central Drug Research Institute, Lucknow*

Attempts were made to develop indigenous drugs to counteract tuberculosis. Several studies relating to this subject were in progress. The screening and evaluation of certain indigenous drugs and synthetic compounds were undertaken. The effect of cadmium chloride as an oral contraceptive was tried on rats. The development of economic methods of production of some pharmaceuticals were also undertaken by this Institute.

### *Central Public Health Engineering Research Institute, Nagpur*

This Institute was just being established during the year. It undertook preliminary work on two projects: (i) experiments in connection with oxidation ponds at Sewage Farm, Nagpur and (ii) reduction in evaporation losses at Gorewala Tank, Nagpur by the use of hexadecanol.

## Higher Technological Institutes

### *Indian Institute of Science, Bangalore*

Of the various investigations successfully completed in different Departments of the Institute, the following are a few:

Studies on absorption of carbon monoxide on iron, cobalt and nickel powders were carried out at temperatures of about 100° C and carbide formation was observed in the case of cobalt and nickel. Physico-chemical properties of peroxy titanium sulphate and peroxy titanium maleate were investigated and structures assigned to these complexes. The Organic Chemistry Division continued to investigate problems relating to synthesis of physiologically active natural products, synthetic drugs and terpenoids. Crystalline retinene 2-oxime, which is akin to one of the visual pigments in the retina of the eyes, was prepared and spectroscopic examination of other pigments was in progress. Studies on medicinal plants like *Herpestes, Hydrocotyl asiatica, Malia azardirichta, Gingerieris officinale,* were completed. Other investigations undertaken by the Pharmacology Section were chemotherapy, immunity against tuberculosis, metabolism of drug resistant mycobacteria and chemotherapy of fungal infections.

Investigation on fundamental problems of solid state physics with particular attention to single crystals, was the main object of the Physics Department. Researches on transonic flow and transonic interference characteristics of slotted and perforated walls yielded valuable conclusions. The large 5"x7" supersonic wind tunnel was brought into operation. Theoretical and experimental studies in fluid mechanics and aerodynamics, aircraft structures and applied elasticity were completed.

The problem of self induced injection and scavenging in a two stroke diesel engine, supercharging of B-series Kirloskar diesel engines, effect of pipe diameters and length on exhaust temperature measurements in engines and vibration in engine calculations, engaged the attention of the department of Internal Combustion Engineering. In the department of Metallurgy the problems of powder metallurgy and electrometallurgy were taken up for study.

Scientific investigations with regard to design and development of a thermal analyser, effect of vibrations on heat transfer, double motion principle in axial multistage turbomachines, internal damping in machine elements and design and development of a fatigue testing machine for full scale components, design and development of an experimental air turbine and a photo-electric flame failure safety device, were taken in hand during the year under review and successful results were obtained.

The Department of Civil and Hydraulic Engineering developed a high discharge low head centrifugal pump and an electronic gauge reading correct to one thousandth of an inch. The department also designed and fabricated instruments for inception of cavitation and for generating vibrations in soils and also for measuring stresses caused in soil due to these vibrations. Technical assistance was rendered to a number of industries and educational institutions.

Fault detection, sensitivity, failure location in transformers, effects of humidity on flashover of high voltage apparatus and problems of impulse corona, were a few of the studies undertaken by the department of High Voltage Engineering.

Research work in the department of chemical technology and chemical engineering was confined to 4 main lines, namely: Fischer—Tropsch Synthesis, Mass Transfer Operations, Fluidisation, and Isotope Separation.

## Specialised Research Institutes

There are quite a few specialised research institutions in the country devoting their attention to research problems in certain technological fields. The work done during the period under review by some of these institutions is briefly outlined below:—

At the Technological Research Laboratory of the Indian Central Jute Committee, Calcutta, improved jute bags for cement were made from non-woven jute fabrics utilising mill waste which did not allow seepage and were almost moisture-proof. An attractive type of book binding cloth was made and embossed. From jute sticks, unbleached pulp was prepared, which could be used in the preparation of fairly strong hand-made paper. Packing paper and board could economically be made from jute-stick-pulp. On the fundamental side, fractionation of cellulose after nitration, effect of heat and moisture on jute fibres of different stages of growth and X-Ray diffraction studies of pectin were some of the investigations carried out.

Research work at the Indian Jute Mills Association Research Institute, Calcutta, was divided into four main sections. In the Physics and Physical Chemistry Section, investigations on the fibre yarn and fabric relationship, mechanical, capillary, colloidal, and surface properties, electrical and thermal conductivity and measurement of colour and lustre of jute and bast-fibre were carried out. Routine testing of fibre yarns and fabrics and the design and construction of instruments & equipments etc., required was also being done. In the Chemistry and Applied Chemistry Section, investigations on the reaction of jute and bast-fibres towards different chemical reagents commonly used in chemical treatments and wet finishing operations were carried out. The chemical and weathering action of atmospheric influences, such as moisture, heat and light were also studied. In Microbiology and Biochemistry Section, work on the physiology and metabolism of the cellulose-decomposing fungi and on the influence of vitamins and other micro-nutrients was undertaken. The Chemical Technology and Chemical Processing Section was engaged in the application of research on the use of chemical proofing and finishing treatments to jute yarn and fabrics in order to improve or confer special properties.

In the silviculture section of the Forest Research Institute and College, Dehra Dun, phenological observations, seasonal growth measurements and germination tests on a number of species were carried out. Experiment with giberallic acid showed enhanced growth of seedlings of a number of species. Work on the analysis of soil samples collected was continued. Phytosociological studies on the dry teak forests of Madhya Pradesh and Rajasthan and sal forests of Uttar Pradesh were carried out. A new meteorological observatory was established at New Forest, Dehra Dun. In Botany, research in systematic botany, genetics and cytology was continued. 3700 specimens were incorporated in the Herbarium and 2264 were identified. In Wood Anatomy, research and experimental work on several applied and fundamental problems on tree growth and timber utilisation was carried out. Interesting results were also obtained on the growth and development of septate and crystalliferous fibres which were of fundamental importance in the classification of woods. The first volume of the book 'Indian Woods' dealing with about 280 timber species and illustrated with 221 photographs was printed. In the Entomology division, research on problems like protection of newly felled timbers by prophylactic treatment with several insecticides at Jhajra and biological study and control of defoliators and borers of forest plants was carried out. Epidemiological study of teak defoliators was commenced in the field station at Top Slip, Madras. In Forest Pathology, data collected from 700 living sal trees in Dehra Dun division were analysed with interesting results. Seven species of Autstralian Eucalyptus were tested for natural decay resistance.

Hard boards were developed from arecanut husk, jute sticks and chip boards from a number of wood and other wastes, such as jute sticks and mustard stalks. Work on compressed wood from Indian timbers with particular reference to textile mill auxilliaries was carried out with encouraging results. Thermosetting animal glue formulae were standardised and an extender from rice husk was developed. In Timber Technology, full sized wood poles of sal, gurjan, chir, deodar, mesua and hollong, jointed poles of laurel, sal, chir, and kail and wood pins of *Shorea talura* Morus laevigata, sal, teak, babul and haldu were tested for use in electric transmission lines. Packing cases, hard boards, laminated wood, impregnated wood, plywood panels and nailed joints of different species received from different sources were tested. In Timber Engineering, design of timber trusses made from different species of timber and with varying spans were prepared.

Cultivation of Rauwolfia (sarpagandha) which is much in demand in the treatment of high blood pressure and as a sedative, was extended. Experimental cultivation of other important economic plants, such as *Duboisia Myoporoides* for myduatic alkaloids, *Cascare Sagrada* for medicinal bark, rosa grass, citronella grass (both for essential oil), *Ammi Visnaga* for medicinal purposes, etc. was continued at Dehra Dun and Chakrata. Investigations on the introduction of Malayan cane (rattans) into India and the improvement of indigenous canes were continued. Making use of tamarind kernel powder, sodium silicate and alum, a suitable paste for affixing labels on tin cans and glass bottles, and an improved unit for the sublimation of camphor on a cottage scale basis were evolved. The leaves of *Mentha arvenisis* cultivated in Punjab yielded 46 per cent menthol and 82 per cent of total alcohol, which were quite comparable to that obtained in Japan. Investigation was carried out on the production of rayon grade pulp from *muli* bamboo and *daba* bamboo, high alpha cellulose pulps for nitro-cellulose from *muli* bamboo, pressed boards from wattle wood, and de-inking of papers for the production of writing and printing papers. The studies of air seasoning behaviour of several species of Indian timbers were tested. Tests to find out the suitability of some species of Andaman timbers for high speed textile mill bobbins were taken in hand. Encouaging results were obtained on the preparation of arsenic, mercury, nickel and boron organic solvent type preservative from raw chir pine resin. Experiments were conducted to impart water-proofing and fire-proofing qualities to bamboos. Experimental floating fenders made here were sent for service tests to Bombay, Cochin and Madras harbours.

Indian Lac Research Institute, Ranchi, has two major research divisions *i.e.* Entomological and Chemical. In the Entomology division artificial partial defoliation of palas (Butea monosperma) continued to prove definitely helpful in preserving broodlac from the summer crop. Observations during all the four crops, baisakhi and katki on palas and jethwi and aghani on kusum, showed that the use of more broodlac than usual improved the crop prospect substantially. Moghania, Macro phylla and Albizzia lucida promised to be a good alternative hosts for kusum. The scraping of lac immediately after harvesting proved an effective means of eliminating and checking the growth of insect enemies of stored lac. In the Chemical division, fractionation of shellac by urea in acetone solution gave three fractions, one superior to shellac in heat and blush resistance and the second a perfectly thermo-setting material. On the processing side, the so-called defects of autoclave shellac, a slight darkness of colour and less wax content, could be completely rectified. A simple method of disposal of lac factory waste and recovery of a lac dye as by-product was developed and used successfully in dyeing wool, silk and jute in various shades. A method for making photo mounting tissue paper using lac adhesive was developed and commercially exploited. A pilot plant for making bleached lac by the institute's improved methods was designed. Shellac-etch primers have been substantially improved so much so that the railways took them up for service trials on aluminium coaches.

The laboratories of the Ahmedabad Textile Industries Research Association undertook studies on the relationship between fine structure and physical & mechanical properties of cotton, use of colloidal silica as a fibre conditioning agent, upgrading of Indian cotton by combing, utilisation of phosphates in peroxide bleach baths, deposition of vinyl polymers in cotton fabrics, efficient utilisation of steam in textile industry, distribution and consumption patterns for cotton piece-goods, mechanical properties of starch films, chemical processing of cotton-viscose blend fabrics, crystalline size and orientation of some inorganic and other materials on textile fibres and blending and selection of cotton according to fineness, etc.

## Government Departments

### *Civil Aviation (Technical Centre)*

The Research and Development Directorate undertook all the items in the programme proposed for the year 1958-59, and satisfactory progress was maintained. An important achievement during the year under review was the successful maiden flight of the first prototype of the two seater glider Ashvani designed and fabricated at the Technical Centre. This glider was constructed mostly with indigenous material. The Centre carried out detailed studies relating to the performance and operating cost characteristics of cargo versions of a number of various types of aircraft, and a technical note was prepared regarding this. Detailed study and analysis relating to the performance characteristics, operating costs, design, structural and safety features of the modern turboprops, and turbojets for (medium range operations) were being pursued. A number of studies relating to operational safety and flight researches was carried out. Scientific investigation of incidents and accidents, development and testing of aircraft quality materials, fatigue life of aircraft components were other items of investigation carried out with success.

During the year under review six technical reports, eleven technical notes, six technical memoranda and three memoranda were issued departmentally.

### *India Meteorological Department*

The department was engaged in investigations in the fields of meteorology and other geophysical subjects such as solar physics, geomagnetism, ionosphere, siesmology, atmospheric electricity, atmospheric zone and cosmic rays. Keeping in view the advent of jet age in aviation, scientific investigations were carried out on the characteristics and behaviour of the jet streams over India—westerly as well as easterly—and the wind and thermal structure in the higher troposphere. Studies were conducted about the echo (from thunderstorms) pattern displayed by the radar in different synoptic situations.

The Instrument Section carried out investigations on the development of instrumentation, with a view to increase the efficiency of production, to decrease the production cost, and to increase use of indigenous material.

The Agricultural Meteorology Division at Poona continued their studies on relationship of weather and crops and useful investigations such as the effect of rainfall on the yield and growth of cotton, jawar and other crops were made.

### *Posts and Telegraphs*

The pattern of work in the year 1958-59, was on the same lines as in the previous years, and in addition, scientific investigations were carried out on the development and design of equipment which are at present imported, development work to improve the telephone and telegraph service to the public and to improve and to utilize the existing assets more efficiently. The department rendered advice on a number of technical matters.

In addition to the usual programme of design and development of telephone and telegraph equipments required in the department, a number of new and special types of equipment in connection with the electrification project of the Railways were taken in hand. The problems investigated were VF telegraph system, manual teleprinter exchange, automatic teleprinter exchange, overseas teleprinter exchange for international working, loading coils, 12 channel cable type carrier telephone system with frequency frogging repeaters, 4 wire VF repeaters, transformers, testing instruments, train control circuits, block equipment, omnibus circuits and interwire circuits, 8—channel carrier telephone system, telegraph regenerative repeaters, power plant and miscellaneous equipments.

With a view to improving the existing service and making it more efficient, scientific investigations were carried out with regard to trunk exchanges, call queueing equipment, trunk timing indicators & subscriber dialling.

*Railway Board*

In the civil engineering section of the Railway Testing and Research Centre, tests to determine suitability of Thomas quality steel for rails were carried out. It was found that performance of the Thomas quality steel compared favourably with the Indian steels. Experiments to test the strength of two types of prestressed concrete BG and MG sleepers and to rationalize the formula for assessing impact on masonry arch bridges under various combinations of load, speed and depth of fill were carried out. The Centre developed a cell for measuring separately and simultaneously, the vertical and lateral forces exerted by passing locomotives.

In the mechanical engineering section tests were carried out to determine:

(i) the power rating, braking capacity and starting adhesion of WDM class diesel electric locomotives,

(ii) the stability of locomotives on turn-out-curves, and

(iii) effect of impacts on BOBS wagon of Indian and German manufacture and also BOX wagons.

The metallurgical and chemical section carried out scientific investigations on strain-ageing of boiler plates, weldability tests on mild-steel used in the under-frames of the carriages and spraying of slag-wool and bituminous emulsion for the insulation of carriages. An inflammable mould-wash for obtaining improved surface finish and stripping of castings was developed at the Centre.

*Survey of India*

All the four regional circles of the Survey of India carried out original and revision surveys of their respective regions. The Geodetic and Research Branch carried out secondary levelling, gravity work, 31-day tidal observations and computations in connection with IGY programme and magnetic observations in all the States of the Indian Union except Jammu and Kashmir. The Air Survey and Training Directorate conducted flood control surveys of the various parts of the country and it also conducted surveys to locate lead and zinc in Rajasthan. The Survey of India continued taking longitude and latitude observations in connection with IGY.

### *Botanical Survey of India*

Collection of specimens and data in respect of ecological and economic plants from different parts of the country and addition of living orchids to collection in the Orchid House were made. Cyto-taxonomic studies of the flora of Lucknow and environs and detailed studies of the humid forests of India were made. The Survey identified 7083 plants and lent 2713 sheets to different herbaria for research. 473 fresh water plants were collected and 273 sheets were received on exchange basis. In the museum of the Western Circle, a collection of about 200,000 specimen were incorporated. All the regional circles continued exploration work in their respective regions.

The Survey participated in the Cho Oyu expedition. The origin of the pest plant Lantana, a tetraploid, was traced to endemic diploids.

### *Zoological Survey of India*

The Survey conducted a number of faunistic surveys of the various parts of the country, the most important of them being:—(i) The Indian Cho Oyu Expedition, (ii) The Rajasthan Desert Survey, (iii) The Sambhar Lake Survey (Rajasthan) and (iv) The Pondichery and Karaikal Surveys (South India). The collections made during these surveys were under study. Research on various problems of systematic animal ecology, zoogerography, fresh water sponges, marine polycheates, plant and soil mematodes was continued in different Scientific Sections.

9126 specimens, including 289 type-specimens, and 109 species and sub-species new to the Survey collection, were added either as a result of the identification work and systematic studies carried out by the staff or by exchange and donations received from outside.

### *Central Board of Geophysics*

The Geophysical Research Wing and the Oceanographic Research Wing were in initial stages of implementation during the year. Two trainees, one in Exploration Geophysics and one in Oceanography, were under training at the Geological Survey of India, Calcutta and the Indian Naval Physical Laboratory, Cochin, respectively. The Oceanographic Research Wing at Cochin, had been participating in the collection of the Oceanographic data in the Arabian Sea, in collaboration with Indian Physical Laboratory, Cochin.

### *National Atlas Organisation*

Materials for the compilation of political, physical and population maps were collected from various Central and State sources. The preparatory work of compilation for bringing out the pilot sheets of these three maps was taken up. The population map of which the first plate was compiled and was under print, was the only map of its kind ever attempted. This was a detailed and comprehensive map showing the population of every village. Rural population was also shown classified into two catagories—agricultural and non-agricultural. All towns were shown classified into four functional types.

### *Atomic Energy Department*

The work of the Department expanded rapidly on all fronts since the constitution of the Commission. The Atomic Energy Establishment, Trombay, which is the national centre for research and developme in the field of atomic energy, continued to expand. All the divisions enlarged and expanded the scope of their activities. A few of the divisions were shifted and housed in sheds at site. Though there was considerable recruitment of scientific persons at the Establishment, difficulty was encountered in finding suitable personnel. To some extent the requirements of the establishment were met by giving specialised training to young science graduates and engineers in the Training School. In the previous year the school trained about 146 persons and during the year under review 173 fresh candidates were admitted. The strength of scientific and technical personnel during the year was 950, excluding the trainees.

The reactor Apsara, completed 2 years of operation and 291,000 kwh of operation. There was considerable increase in the demand on reactor during the year and it was put to round the clock operation during the later part of the year under review. Many new and interesting results were obtained. In addition to shortlived isotopes, small quantities of radio phosphorous and radio-iodine were being continuously produced and supplied to research centres.

The reactor Zerlina is designed to carry out investigations leading to new design of power reactors and to study other reactor techniques. Various components and parts were fabricated. It was expected that reactor would be in operation by the end of 1959.

The erection work of the Canada-India Reactor was progressing as planned and it was expected that the reactor would go into operation by March, 1960.

Trial runs of the Uranium Metal Plant indicated that the plant could easily operate to the designed capacity. This plant should provide automatically pure uranium for fabrication of fuel elements for Canada–India Reactor and Zerlina. The first ingot of uranium weighing 40 kgm was produced on 29th January, 1959. Construction of fuel fabrication plant started and the installation of equipment was proceeding as per schedule. It was planned that plants would go into operation by the end of 1959.

Facilities for the production of boron triflouride and end-window beta-counters were expanded to meet the requirements of the research programme to be carried out with Zerlina. Health Physics Division continued its radiation surveys of laboratories and plants of the Trombay Establishment to ensure adequate radiation protection to the workers. Investigations on the preparation and production of pure materials, and on solid state studies were undertaken. It was proposed to intensify scientific work on the mutational aspects of radiation genetics with the help of gamma irradiation facilities.

The Atomic Minerals Division had a strength of 475, consisting of 79 geologists, 48 physicists, 119 mining and drilling staff, 3 chemists, 2 mineral technologists, 3 petrologists and 221 other officers and staff. About 7889 square miles were scanned from air partly in the Singbhum copper belt and partly in Aravalis. Several indications were recorded which were being examined on the ground. The four regional circles were carrying on intensive prospecting for atomic energy minerals and as a result significant quantities of uranium ores or other nuclear energy minerals were expected to be prospected. A museum was set up at the Atomic Minerals Divisions office at New Delhi in which mainly uranium, thorium and lithium ores and beryl are exihibited.

For extending radiometric observations over a large part of India, a system was introduced for lending G. M. counters and their servicing from time to time, free of charge. Detailed studies of the economics of the atomic power in India were made and a decision was taken to proceed immediately with the construction of an atomic power station of about 2,50,000 killowatts.

### *Indian School of Mines and Applied Geology, Dhanbad*

Studies of rock magnetism in some of the formations in the neighbourhood of the School yielded interesting results. A study of the underground water position in the Dhanbad area was initiated by the School in view of the great scarcity of water in the region. About 12 square miles of area near Jharia was geologically mapped. A simple volumetric method for the estimation of silver with the aid of common reagents was evolved at the School. This method, with slight modifications, could, it is claimed, substitute the existing complicated procedures.

### *Power Research*

Realising the need for creating facilities for undertaking applied research in power engineering in view of the large increase of power supply facilities and the growing volume of electric equipment manufactured in the country, Government of India appointed in 1955 a high-powered committee to go into the question. The committee recommended the creation of a Power Research Institute at Bangalore which would be concerned with high voltage engineering, general electrical engineering, mechanical engineering and hydraulic engineering and the setting up of laboratory at Bhopal for Switchgear development and testing. The whole organisation was estimated to require a capital outlay of Rs. 4·7 crores. Assistance under the United Nations Special Fund was being sought for obtaining some equipment from abroad. To take in hand the preliminary planning work, a Planning unit was formed in the Power Wing of the Central Water and Power Commission in January, 1958.

During the course of 1958-59, a proposal called the 'first stage' scheme was prepared. This outlines the setting up of limited facilities for research in power engineering mostly with the help of equipment available at the Indian Institute of Science, Bangalore and with the help of a set of research workers who would provide the nucleus. A report on the scheme for setting up a laboratory for switchgear development and testing at Bhopal was also prepared.

### *Building and Construction*

The National Building Organization has carried out socio-economic and engineering surveys in respect of various aspects of rural housing, plans and estimates were prepared and it was now proposed to construct the demonstration houses. Other investigations and scientific studies undertaken by the organisation during the year under review were;

waterproofing of flat terraces and evolving suitable specifications under various organisations, foundation design in black cotton soil, cement concrete floor finishes on R.C.C. State, damp-proof course, corrosion of steel in reinforced brick work, climatology in relation to house design and initiating preparation of charts for the designer, and survey on lines. The organisation had prepared full technical notes on research in building mortar, operational research in building industry—site organisation, programming and progressing of work and productivity, manufacture of asphaltic roofings in India, logging leaflets and manufacture of expanded clay aggregate in India. Most of these notes were in fact project notes which had been submitted to a number of State Governments for implementation.

At Hirakud, a Masonry Testing Station wherein experiments involving 4·5 to 6·75 million pounds' stress could be conducted was set up. This testing station was set up originally in order to remove the prejudices existing in the minds of some engineers against the use of random rubble masonry in mortar in the construction of dams and other large structures. Such a prejudice existed because so far no positive tests could be conducted to prove the strength of masonry. To obtain actual values of strength it was essential to test masonry cubes of more than 24" size which required a machine capable of exerting 4 to ·5 million pounds' load. Such a device was contrived ingeniously at a very low cost. A tunnelled niche in a rocky hill-side with a huge granite over burden, provided the necessary anchorage to withstand the enormous reaction thrust generated during the testing of 30 or 36 inches cubic of masonry. A series of tests conducted at this station during last two years on concrete blocks and masonry blocks conclusively proved that masonry was in no way inferior to concrete as regards strength and that it could be used in the construction of high dams. Already the results of these tests have been put into practical use in various river valley projects like Nagarjunasagar, Sharavathy, Hirakud, Koyna and Siddeswara. It is estimated that in Nagarjunasagar Dam alone, a saving of about Rs. 40 lakhs has been effected by replacing concrete by masonry in places where the stresses are more than 20 tons per square feet.

### *Vigyan Mandirs*

At the end of 1957-58, there were 18 Vigyan Mandirs in existence. During the year under review 3 more were set up. In 1959 except for Mysore, all the other 13 States had one or more Vigyan Mandirs each. It was decided to set up two additional Vigyan Mandirs in each State before the end of 1959-60. The pattern of work done by the Vigyan Mandirs continued to be the same as before, *viz.*, identification of insects, guidance in solving day-to-day scientific problems, analysis of soil, water, food-stuffs, etc. It was proposed to add a Cultural Wing to each Mandir for organising folk dances, community singing, craft making, needle work, etc.

### *National Research Development Corporation*

During the first 8 months of the year 1958-59, 25 new inventions were reported for development to the Corporation thus bringing the total number of inventions so far reported to 472. In addition to the processing of pending applications, 2 new patent applications were filed by the Corporation. Applications for foreign patents were filed in the case of 2 inventions. 17 licence agreements for commercial development were negotiated during the year. These include boron free enamels, foam glass, mica insulating bricks, vitamin C, graphite crucibles, dehydrated castor oil, etc. In addition licences for the commercial development of the processes for producing building boards from sawdust, fat liquor, resins from tar oil fractions, pre-cast doubly curved shell elements, gelatine, silver mica capacitors etc., were being negotiated. Work on the pine oil and infant foods projects had been completed and licences for the commercial development of these processes were negotiated. The fabrication of the pilot plant for the production of phthalic anhydride by fluidised oxidation of coaltar oils was completed by the Shri Ram Institute for Industrial Research, Delhi.

### *National Dairy Research Institute, Karnal*

At the National Research Institute, Karnal and its Southern Regional Station at Bangalore research on problems connected with various aspects of dairying was conducted during the year. 13 varities of exotic grasses representing new types of fodder were successfully established. Artificial insemination studies and nutritional studies on animals were continued. Tests for determining the shelf life of ghee under variable conditions and in different parts of the country were initiated during the year. Studies on the detection of adulteration of whole milk with reconstituted milk and on the determination of admixture of cow milk in buffalo milk and *vice versa* were also undertaken. The production of high grade milk under adverse weather conditions, such as high summer temperatures, using sanitary precautions was also attempted and considerable improvements in the quality of milk effected.

### Scientific Societies and Associations

Scientific Societies and associations such as the Indian Academy of Sciences (Bangalore), Physical Research Laboratory (Ahmedabad), Birbal Sahni Institute of Palaebotany (Lucknow), Indian Association for Cultivation of Sciences (Calcutta), Bose Institute (Calcutta) and the Indian Science Congress Association (Calcutta) continued to receive grants-in-aid for obtaining much needed additional equipment, furniture, books, museum articles as well as for constructing additional laboratory buildings. A brief outline of the research work done under the aegis of these societies and associations is given below.

The Institute of the Indian Academy of Sciences, Bangalore was engaged during the year under review mainly with problems presented by the solid state of matter, especially crystals which is a field offering very great scope for research. Eight research memoirs were published by the Institute. The diffraction of X-rays in diamond, the Raman spectrum of quartz, the optical properties of amethyst and the nature of percussion figures in crystals were some of the other topics investigated.

The Birbal Sahni Institute of Paleobotany, Lucknow continued its investigations on fossil plants, spores, woods and microfossils obtained from different bearing seams and carbonaceous shales with a view to assessing their economic importance. In particular, studies and investigations were undertaken on the Glossopteris flora of India, Lower Gondwana exposures in the Rajrihal mills, Jharia and Karharbari fossil flora, spore genera of East Raniganj coals, microflora of Karharbari coals, shales from the Gondawana coalfield, lower carboniferous shales of spitozbergen, Devorian shale of North America, Triassic flora of India, Messozoiac flora of Cutch, coniferous flora from the Jabalpur series, woods from Assam, micro and mega spores isolated from shale samples collected from Ghuneri and Kukmbit, spores obtained from shale samples of Sehora, etc.

Indian Association for Cultivation of Science, continued to carry out fundamental research in its various departments. During the year under review a new department for Research in Applied High Polymers was added to the institute. Department of General Physics and X-rays carried out investigations on inter-diffusion of gases, thermal conductivity of gas mixtures, thermal diffusion in gas mixtures, crystal structure and X-ray study of alloys. Paramagnetic studies, phase transitions and thermal changes of structures by X-ray and other methods, semiconduction and ferromagnetic properties continued to engage the attention of the Department of Magnetism. Kinetics and chain transfer, electro-chemical behaviour of polyampholytes, synthetic polyelectrolytes as soil conditioners, liquid crystalline detergent systems, chemical utilization of ultrasonic waves, solvent extraction of coal, alicyclic compounds (terpenoids and steriods), heterocyclic compounds and study of co-ordination compounds and their application in the field of analytical chemistry were a few of the other problems investigated in the Chemical Laboratories of the Institute.

# CHAPTER XIV

# HEALTH

The year under review was marked by an all-round stepping up of development programmes relating to the provision of medical care, control of communicable diseases, training of medical personnel, and urban and rural water supply and sanitation. Family planning practices had begun to take root.

## PROGRESS OF EXPENDITURE

The progress of expenditure during the first three years of the second plan is given below:—

(Rs. crores)

| No. | Scheme | Plan provision | 1956-57 (actuals) | 1957-58 (actuals) | 1958-59 (actuals) | Total expenditure (1956-59) | Col. 6 as percentage of Col. 2 |
|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| I. | Hospitals and Dispensaries . | 41·00 | 2·81 | 2·84 | 4·32 | 9·97 | 24·3 |
| II. | Health Units . | 22·00 | 0·63 | 1·01 | 1·71 | 3·35 | 15·2 |
| III. | Education and Research . | 39·44 | 3·48 | 4·49 | 5·14 | 13·11 | 33·2 |
| IV. | Training Programmes . | 6·44 | 0·30 | 0·57 | 0·60 | 1·47 | 22·8 |
| V. | Indigenous System of Medicine . . | 6·00 | 0·43 | 0·68 | 0·56 | 1·67 | 27·8 |
| VI. | Control of Diseases . . | 65·04 | 7·74 | 8·48 | 9·55 | 25·77 | 39·6 |
| VII. | Water Supply and Sanitation: | | | | | | |
| | Urban . . | 58·00 | 6·82 | 11·39 | 13·72 | 31·93 | 55·0 |
| | Rural . . | 28·00 | 3·32 | 3·06 | 3·83 | 10·21 | 36·4 |
| VIII. | Family Planning | 5·47 | 0·15 | 0·25 | 0·48 | 0·88 | 16·1 |
| IX. | Other Schemes | 3·61 | 0·43 | 0·81 | 0·53 | 1·77 | 49·0 |
| | TOTAL . | 275·00 | 26·11 | 33·58 | 40·44 | 100·13 | 36·4 |

## TARGETS AND ACHIEVEMENTS

A consolidated statement of targets and achievements during the first three years of the second plan is given as an Appendix to this chapter. Salient features of the progress during 1958-59 are reviewed in the following paragraphs.

### Hospital Services and Health Units

Hospital services and health units continued to expand though progress was slow in terms of the targets to be achieved during the plan period. As against the plan target of 30,000 additional beds, only 17,600 beds had been provided by the end of 1958-59; likewise only 1,471 primary health centres had been opened as against the plan target of 3,000. Lack of trained personnel, non-availability of equipment and material, and delay in the execution of building programmes were major handicaps. Difficulties in securing and retaining health workers in rural areas were experienced because of unattractive pay-scales, lack of adequate compensation for loss of practice and other amenities, unsatisfactory working conditions, and non-availability of or, poor residential accommodation.

### Medical Education

By 1958-59, the number of medical colleges had increased to 52 from 42 in 1955-56. This compared favourably with the plan target of 53. The number of annual admissions had reached the plan target of 4,500. The number of doctors at the end of 1958-59 was estimated at 77,800. The plan target of 82,500 is expected to be achieved by 1960-61.

### Nursing and other Training Programmes

By 1958-59, the number of trained nurses had increased from 22,680 at the end of the first plan to 29,110 which compared favourably with the plan target of 31,000. The progress of the training programme for midwives was even more successful; the number of trained midwives at the end of 1958-59 was estimated at 33,210 which was in excess of the plan target of 32,000. On the other hand, the training programme for health visitors and dais, especially the latter, made slow progress. To encourage a larger number of indigenous dais to come forward for training, the Central Government agreed to sanction stipends at enhanced rates and to bear 50 per cent of the cost of re-fills for 'dais bags' per midwifery case after completion of their training.

### Control of Communicable Diseases

*Malaria.*—The national malaria control programme was changed to a programme of malaria eradication with effect from April 1958. The object of the control programme had been to bring down malaria transmission to a low level in the major areas of infection and to hold it at that level by periodic sprayings. The eradication programme, on the other hand, aims at concentrated measures over a limited period in all known malarious areas in order to eradicate the disease altogether. The experience of large-scale control programmes in malarious areas of different parts of the world had revealed that control operations became superfluous in areas effectively protected over a period of years against new infection because the malaria parasite eventually disappeared in the human hosts in populations so protected. It was also observed in some areas that malaria carrying mosquitoes had tended to develop resistance to insecticides, which lent urgency to eradication measures. The change over became possible as a result of additional funds being made available under the Indo-U.S. Technical Co-operation Programme.

Thirty additional endemic units were allotted in February, 1958, to the various States, thereby raising the number of units allotted to 230 and extending protection to 230 million people estimated to be living in the malarious areas. By the end of 1958-59, 225.75 units were in operation. According to the available reports at the Malaria Institute of India, a total of 214·15 million people were protected against malaria up to March, 1959.

A Malaria Eradication Publicity Week was observed throughout the country in June 1958 to enlist the cooperation of the public and to educate the masses.

In order to co-ordinate anti-malaria activities on the Indo-Burma border, an Anti-malaria Co-ordination Conference under the auspices of the World Health Organisation was held at Mytikyina, Burma in December, 1958.

*Filaria.*—Forty-six Filaria Control Units were allotted to the participating States under the National Filaria Control Programme by the end of 1957-58. In view of the tight foreign exchange position and the curtailment of aid from U.S. T.C.M., it was decided to continue the programme at the existing level and not to increase the number of Control Units beyond 46 during the current plan. Out of the 46 filaria control units allotted, 45 units were functioning by the end of 1958-59. Up to 31st March 1959, about 4·37 million persons were treated with Hetrazan under the mass therapy programme and about 3·2 million houses were sprayed.

Filariasis survey in India, begun in 1955-56, was still in progress. Surveys carried out up to 31st March 1959 covered a population of about 22·07 million. As a number of new foci of infection were revealed by the survey, the population requiring protection was likely to exceed the original estimate of 25 million persons. The survey also revealed that W. bancrofti infection, which was previously considered to be mainly urban, was also to be found in a large number of rural areas.

At the Filaria Training Centre, Ernakulam (Kerala State), 70 Medical Officers and 136 filaria inspectors were trained.

During the year 1958-59 the policy regarding supply of insecticides and larvicides was partially revised. Complaints had been received from some of the participating States about the toxic effects of Dieldrin on the spraying crew as well as domestic animals. It was proposed to supply B.H.C. with high gamma concentration, 26% gamma and 50% gamma, to all the units in the States of Madras, Kerala, Bombay and Mysore. It was also decided that instead of the B.H.C. 50% w.w.p. previously supplied, mosquito larvicidal oil should be provided to all the participating States.

*Tuberculosis.*—The mass B.C.G. campaign was continued in all the States during the year. The number of persons tuberculine tested by the end of 1958-59 was 115·94 million; of these 40·63 million were vaccinated.

No new T.B. clinics were established or upgraded during 1958-59; the total number remained at 230. 1,200 additional beds were made available for T.B. patients during the year. Two new T.B. Demonstration and Training Centres at Nagpur and Hyderabad were established in addition to the four already functioning at New Delhi, Patna, Trivandrum and Madras.

*Leprosy Control Scheme.*—Scheme for the control of leprosy continued to operate during the year under review. By 1958-59, 4 treatment and study centres and 39 subsidiary centres had been set up.

A Leprosy Advisory Committee was constituted in 1958 to review the working of the Leprosy Control Scheme and to suggest measures for its improvement.

*Venereal Diseases.*—During 1958-59, 22 additional clinics had been set up. A V.D. Training Centre was opened at the Safdarjang Hospital, New Delhi. The centre provided intensive refresher courses of three months each to medical officers, serologists, laboratory technicians, public health nurses, health visitors and V.D. workers. In the V.D. Training Centre at Safdarjang Hospital, the training programme for refresher courses was given to 20 medical officers, 3 laboratory technicians and 6 public health nurses during 1958-59.

**Water Supply and Sanitation**

In the second five year plan a provision of Rs. 48 crores was made for carrying out Urban Water Supply and Sanitation Schemes. A sum of Rs. 31·93 crores was spent during the first three years of the second plan; 275 water supply schemes and 61 sewage schemes were under execution under the National Programme. A separate provision of Rs. 10 crores was made in the Central Plan for assisting the water supply and drainage schemes of existing corporations. Schemes costing Rs. 7·36 crores were in progress. A sum of Rs. 28 crores has been provided in the State Plan for rural schemes. Rs. 10·21 crores were spent until 1958-59; 206 rural schemes were in progress.

Progress of the schemes was slow in the initial stages due to lack of trained personnel, absence of adequate public health engineering organisations and shortage of material and equipment. The tempo, however, picked up in 1958-59.

Training facilities for public health engineers were provided at Calcutta, Guindy and Roorkee. By 1958-59, 164 engineers, 162 engineering subordinates, 27 sanitary inspectors and 76 water works operators were trained. It was found that State Governments were unable to take full advantage of the existing training facilities as most of the personnel employed by them were temporary and could not be sent on deputation. To overcome this difficulty the Central Government decided to pay stipends, and tuition fees where necessary, to the selected trainees.

The Central Public Health Engineering Organisation set up earlier continued to advise and assist the State Governments in planning and implementing their water supply and drainage schemes.

**Family Planning**

The family planning programme made notable progress during 1958-59. This was largely due to the growing cooperation of the State Governments and the gradual acceptance of the programme by the people.

Family Planning Boards were formed in all States except Jammu and Kashmir. Full time Family Planning Officers were appointed in Andhra Pradesh, Bombay, Kerala, Madras, Mysore, Punjab, Rajasthan, Uttar Pradesh and West Bengal. In the remaining States, the programme was under the charge of M.C.H. Officers.

By the end of 1958-59, 799 urban and rural clinics had been established. The number of persons contacted and those actually given advice had markedly increased. Sale of contraceptives during 1958 was reported to be about six times the sale during 1957. There was also a growing demand for sterilisation as is evident from the following figures of sterilisations performed since 1956:—

| | Total | Male | Female |
|---|---|---|---|
| 1956 . . . . . . . . . . | 7,823 | 2,333 | 5,490 |
| 1957 . . . . . . . . . . | 12,599 | 3,397 | 9,202 |
| 1958 . . . . . . . . . . | 21,067 | 6,730 | 14,337 |

The number of persons trained by 1958-59 consisted of 810 doctors, 154 health visitors, 152 social workers and 352 other personnel.

Wide awareness of the importance of family planning was sought to be created through the distribution of 4,60,000 posters, 80,000 copies of pamphlets and 70,000 folders on various aspects of family planning. Grants were authorised for publishing a scientific journal on family planning.

It was decided to appoint group leaders in different States for educating the rural population and mobilising public opinon in favour of family planning under the Community Development programme. About 2,400 school teachers were orientated for the purpose.

Demographic, medical and biological research was undertaken by the Indian Council of Medical Research. Investigations on contraceptives were carried out at the Contraceptive Testing Unit of the Demographic Training and Research Centre, Bombay, Indian Cancer Research Centre, Bombay, the All India Institute of Hygiene and Public Health, Calcutta, the Central Drug Research Institute, Lucknow, Institute of Post-graduate Medical Education and Research, Calcutta, the Bacteriological Institute, Calcutta and the Pharmacology Department of the Lucknow University. Fifty-nine mechanical and chemical contraceptives were tested and 22 were found satisfactory. A number of oral contraceptives were also investigated. Results of research on Metaxylohydro-quinone extracted from 'mattar dal' were encouraging.

In addition to the existing demographic training centres at Bombay, Calcutta and Delhi, a fourth centre was opened in 1958 at the Department of Statistics, Trivandrum.

**Medical Research**

The research programme of the Indian Council of Medical Research covered a large variety of problems affecting public health. The Council completed a large scale survey of the incidence of tuberculosis. The survey was later extended to inaccessible areas. High priority was accorded to research in the field of environmental hygiene and sanitation. The industrial health research programmes concentrated on the study of the special health problems of workers engaged in various industries. Work on fundamental and applied aspects of nutrition, covering a wide field, was continued at several centres in the country. Studies on different types of latrines for rural and urban areas, spermicidal drugs, oral contraceptives and diseases as hypertension, asthma, anaemia etc. were also in progress. The Trachoma Control Pilot Project initiated at Aligarh two years ago in collaboration with WHO yielded valuable epidemiological data. Attempts were made to study the incidence of trachoma in different parts of the country on a pilot project basis.

## Indigenous Systems of Medicine

The Central Institute of Research in Indigenous Systems of Medicine investigated and studied 166 cases of Pandu roga, Grahani Jalodar and Amavata from the point of view of modern medicine, diagnosis and treatment in Ayurveda and Siddha systems of medicines during 1958-59. A Committee was appointed to assess the existing facilities for training and research, research already undertaken, and exent and quality of ayurvedic pharmaceutical products and practices.

# APPENDIX

*Physical Targets and achievements—1956-59*

| Programme | Item | Target 1956–61 | Achievements by 1955-56 | 1956-57 | 1957-58 | 1958-59 |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I. Hospital Services | 1. Institutions | 12,600 | 10,000 | 10,155 (a) | 10,240 (a) | NA |
| | 2. Beds | 155,000 | 125,000 | 129,010 | 133,605 | 1,42,600 |
| II. Primary Health Centres. | Units | 3,725 | 725 | 1,187 (a) | 1,621 (a) | 2,196 |
| III. Medical Education | 1. Medical colleges. | 53 | 42 | 45 | 48 | 52 |
| | 2. Annual admissions | 4,500 | 3,655 | 3,815 | 4,003 | 4,500 |
| IV. Nursing & other training programmes | | | | | | |
| (A)—Number trained. | 1. Doctors (b) | 82,500 | 70,000 | 72,487 | 75,118 | 77,861 |
| | 2. Nurses (b) (including auxiliary nurse midwives). | 31,000 | 22,680 | 24,724 | 26,470 | 29,110 |
| | 3. Midwives (c) | 32,000 | 26,820 | 28,030 | 31,412 | 33,210 |
| | 4. Health visitors (b) | 2,500 | 810 | 836 | 939 | 1,130 |
| | 5. Dais/Nurse Dais (b) | 41,000 | 6,830 | 7,800 | 9,060 | 10,290 |
| (B)—Training Institutions. | 1. Nurses and auxiliary nurse midwives | .. | 333 | 388 | 382 | 416 |
| | 2. Health visitors | .. | 12 | 17 | 18 | 21 |
| | 3. Midwives (d) | .. | 270 | 274 | 244 | 252 |
| | 4. Nurse dais ] | .. | N.A. | N.A. | 100 | 137 |
| V. Control of Diseases | | | | | | |
| (i) Malaria | 1. No. of units | 200e | 133·5 | 169·25 | 193·50 | 225·75 |
| | 2. Population covered (in millions) | 200(e) | 111·7 | 145·25 | 165·16 | 214·15 |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| (*ii*) Filariasis | 1. No. of units | 78(*f*) | 11 | 22 | 45 | 45 |
| | 2. Population surveyed (in millions) | 23·4 | 3·3 | 15·0 | 18·9 | 21·5 |
| (*iii*) Tuberculosis. | 1. T. B. Clinics (New and upgraded) | 370(*g*) | 170 | 188 | 230 | 230 |
| | 2. T. B. Demonstration and Training centres . | 11 | 3 | 3 | 4 | 6 |
| | 3. B.C.G. Teams . | 180 | 119 | 131 | 154 | 165 |
| | 4. Persons tuberculine tested (in millions) . | 170·0 | 66·5 | 83·4 | 105·0 | 115·9 |
| | 5. Persons B.CG. vaccinated (in millions) . | .. | 22·6 | 29·0 | 37·0 | 40·6 |
| | 6. Beds for T.B. patients (in thousands) | 32·0 | 22·0 | 22·4 | 23·2 | 24·4 |
| (*iv*) Leprosy | Treatment and subsidiary centres . | 133 | 33 | N.A. | N.A. | 39 |
| (*v*) Venereal diseases. | V. D. Clinics | 176 | 50 | 50 | 71 | 93 |
| VI. Family Planning. | 1. Rural centres | 2,021 | 21 | 32 | 331 } | 799 |
| | 2. Urban centres. | 626 | 126 | 136 | 291 } | |
| VII. Laboratory services. | Laboratories (Addl. number). | 250 | N.A. | 13 | 37 | N.A. |

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(*a*) Information incomplete.

(*b*) Registered with Indian Nursing Council.

(*c*) Includes nurses registered in midwifery.

(*d*) Diploma course in midwifery to be abolished.

(*e*) Revised to 390 in each case when the control programme was converted into the eradication programme.

(*f*) Since revised to 46.

(*g*) Since revised to 250.

N.A. Not available.

# CHAPTER XV

## HOUSING

The year under review was characterised by better progress in the implementation of existing schemes, utilisation of institutional finance for new schemes and adoption of a variety of measures to accelerate progress of individual schemes and of the housing programme in general.

### PROGRESS OF EXPENDITURE

An allotment of Rs. 120 crores had been made for housing schemes in the Second Five Year Plan which was later reduced to Rs. 84 crores at the time of re-appraisal of the Plan. According to the information furnished by the State Governments and the Ministry of Works, Housing and Supply a total expenditure of Rs. 36·40 crores has been incurred on the housing schemes included in the plan. The following table shows the outlay and expenditure during the first three years of the plan:—

(Rs. crores)

| Scheme | Revised Plan Provision | Progress of expenditure | | | |
|---|---|---|---|---|---|
| | | 1956-57 | 1957-58 | 1958-59 | 1956—59 Total |
| 1. Subsidised Industrial Housing . . . | 27·00 | 3·81 | 3·42 | 4·10 | 11·33 |
| 2. Low Income Group Housing . . . . | 35·60 | 6·99 | 5·98 | 9·04 | 22·01 |
| 3. Plantation Labour Housing | 0·51 | .. | 0·01 | 0·03 | 0·04 |
| 4. Slum Clearance . . | 12·99 | 0·01 | 0·57 | 1·90 | 2·48 |
| 5. Village Housing Projects . | 5·00 | 0·01 | 0·03 | 0·50 | 0·54 |
| 6. Scheme for land acquisition and development | 2·90 | .. | .. | .. | .. |
| TOTAL . . . . | 84·00 | 10·82 | 10·01 | 15·57 | 36·40 |

It will be seen from the above table that there was a noticeable increase in expenditure under the various housing schemes in 1958-59. The total expenditure in the first three years of the plan amounted to about 43% of the plan outlay.

### PHYSICAL TARGETS AND ACHIEVEMENTS

Progress of construction of houses during the first three years of the plan is shown in the following table:—

| Scheme | Plan Target (1960-61) | Achievements | | | |
|---|---|---|---|---|---|
| | | 1956-57 | 1957-58 | 1958-59 | 1956-59 (Total) |
| 1. Subsidised Industrial Housing . . . | 64,300 | 11,778 | 15,355 | 10.953 | 38,086 |
| 2. Low Income Group Housing . . . | 60,000 | 10,871 | 10,023 | 13,511 | 34.405 |
| 3. Plantation Labour Housing | 2,300 | .. | .. | 191 | 191 |
| 4. Slum Clearance . . | 42,000 | .. | .. | 2,062 | 2,062 |
| 5. Village Housing Projcts | 66,500 | .. | .. | .. | .. |
| TOTAL . . . | 2,35,100 | 22,649 | 25,378 | 26,717 | 74.744 |

Progress in physical terms was rather slow. During the three years ending 1958-59, only about one-third of the number of units planned had been constructed.

A number of steps were taken during the period under review to accelerate the rate of progress. The rising cost of building materials and labour and the consequent inability of the State Governments, employers etc. to undertake construction within the ceiling costs prescribed under the various schemes was a major cause of the slow progress during 1956—58. To remedy this situation the ceiling costs were revised upwards by 20% to 30%. Administrative delays in obtaining financial sanctions had also hampered speedier implementation of schemes. In May 1958 the procedure for release of Central assistance was revised. Under the new arrangements three-fourths of the States' annual allocations under the various schemes became automatically available to State Governments in monthly instalments as ways and means advances subject to final adjustment towards the close of the financial year.

Prior to 1958-59, State Governments were competent to formulate and sanction projects for the Low Income Group Housing scheme, Plantation Labour Housing scheme and the Village Housing Projects scheme only. The State Governments are now authorised to sanction themselves the Industrial Housing and Slum Clearance projects formulated by them or by the local bodies, co-operatives and industrial employers within the respective ceilings. They do not now have to obtain technical approval or financial sanction from the Centre before commencing work on individual projects.

The non-availability of adequate land at reasonable cost and at reasonable distance from the place of work in urban areas were other major impediments that had been experienced. In September 1958 the State Governments were informed that in addition to assistance already available under the Low Income Group Housing scheme for the purpose of acquisition and development of land for sale to prospective builders eligible for assistance under the scheme, they could also utilise a portion of the funds allocated to them under the Subsidised Industrial Housing scheme for acquiring and developing land for construction of houses by employers and co-operatives of industrial workers. In the light of the recommendations of the Third Housing Ministers Conference it was decided to formulate a separate scheme for grant of loans to State Governments for bulk acquisition and development of land for sale on 'no profit no loss' basis to prospective builders.

Another factor which slowed down progress was the inadequacy of loan assistance admissible under the Subsidised Industrial Housing scheme to employers and to the co-operatives of workers. In September 1958 loan assistance was increased from 37½% to 50% in the case of employers and from 50% to 65% in the case of co-operatives. The mode of disbursement of financial assistance to them was also liberalised. Under the Slum Clearance scheme the Central share of subsidy was also increased from 25% to 37½%. This, together with the 25% subsidy contributed by the State Governments raised the total subsidy to 62½% of the approved cost of Slum Clearance projects. The remaining 37½% would be advanced by the Centre as loan. The increased rate of subsidy is, however, ordinarily applicable to the six major cities of Calcutta, Bombay, Madras, Delhi, Kanpur and Ahmedabad in view of the high cost of land in these cities.

### Institutional Finance

For some time past it had been felt that institutional finance ought to be utilised on a large scale for financing housing schemes. A beginning in this direction was made in 1958-59 by the introduction of two new schemes—the Middle Income Group Housing Scheme and the Rental Housing Scheme for State employees—which were to be financed entirely through the funds of the Life Insurance Corporation.

The Middle Income Group Housing scheme enables State Governments to grant house building loans to persons in the income range of Rs. 6,000 to 12,000 per annum. The rate of interest payable to the State Governments by individual borrowers was about 5½%. The maximum amount of loan was fixed at Rs. 20,000, exclusive of land. Under the scheme, 25 year loans at 5% were advanced to State Governments by the Life Insurance Corporation in accordance with the annual allocations to be indicated by the Ministry of Works, Housing and Supply. The Life Insurance Corporation agreed to provide funds to the extent of Rs. 3 crores per annum for three years beginning 1958-59. The Rental Housing Scheme for State employees is also financed by funds provided by the L.I.C. to the State Governments. The amount agreed to was a maximum of Rs. 1·0 crore per annum for the three years 1958—61 in the form of 20 year loans at 5%.

### Land Acquisition and Development Scheme

It was also decided to formulate a scheme for assisting State Governments to undertake large-scale acquisition and development of land with a view to facilitating and expediting the implementation of the housing programme in the second and third plans. This scheme permits the State Governments to make commitments for the acquisition and development of land up to a maximum of Rs. 15 crores during the current plan but the actual expenditure is to be restricted to a sum of Rs. 2·90 crores.

### Subsidised Industrial Housing Scheme

During 1958-59 the actual expenditure under the programme was Rs. 4·10 crores as against the expenditure of Rs. 3·42 crores in 1957-58 and Rs. 3·81 crores in 1956-57. The total outlay during the first three years of the second plan amounted to Rs. 11·33 crores which was about 42% of the plan outlay. Houses constructed during the corresponding period numbered 38,086. Appendix I gives State-wise progress of construction of houses during the years 1956–59.

Progress achieved in the public sector was generally satisfactory but progress in the employers and co-operative sectors was poor. Liberalised financial assistance, higher ceiling costs, longer period of repayment of loan and acceptance of bank guarantees in lieu of required mortgage deeds were amongst the important concessions made in order to increase the tempo of construction activity in the private sector.

### Low Income Group Housing Scheme

Under this scheme Rs. 9·04 crores were spent during 1958-59, bringing the total expenditure in the first three years of the plan to Rs. 22·01 crores. Thus about 63% of the total plan outlay has been utilised upto 1958-59. During 1958-59 construction of 13,511 houses was completed (including the backlog of the first plan). Appendix II gives State-wise progress of construction during 1956–59.

Progress of the scheme was very satisfactory during the year under review as the general response to the scheme was good. The entire budget provision in the State sector was exhausted and additional allocation of funds was sought.

### Plantation Labour Housing Scheme

During 1958-59, 191 houses had been completed and 90 were under construction. The total expenditure during the three years 1956–59 was Rs. 3·95 lakhs being only about 8% of the total plan provision. The amount of loan sanctioned amounted to Rs. 5·84 lakhs. The scheme was implemented in Assam, Kerala, Madras, U.P. and West Bengal.

The slow progress was mainly on account of the difficulty or inability of planters to furnish the requisite security prescribed by the State Governments who are solely responsible for the re-payment of the loans to the Centre. Three solutions were under consideration to remedy the situation:

(a) Setting up of a Pool Gurantee Fund to be built out of some extra interest chargeable from planters to meet the losses from bad debts in case the security conditions were relaxed. The Tea and Coffee Boards were to bear a proportion of the losses in excess of the amount of the fund. As the initial reaction of the Boards was not very favourable the proposal has been held in abeyance.

(b) States would pass on the loan assistance to the banks who in their turn, would pass on the money to the mortgaged estates without asking for any extra security except the houses to be built with the loans.

(c) Enforcement of the relevant penal provision of the Plantation Labour Act 1951 has been suggested to the State Governments as a possible way out.

**Slum Clearance Scheme**

Rs. 1·90 crores were spent during 1958-59 on Slum Clearance Schemes. The aggregate expenditure during the first three years of the second plan amounted to Rs. 2·48 crores being about 20% of the revised plan outlay. In addition to this about Rs. 1·64 crores were spent on slum clearance in Delhi. During the first three years, 29,445 plots and tenements were sanctioned, out of which 2,062 houses were completed and 6,100 were under construction. The pattern of financial assistance to State Governments was revised in December 1958 and the Central share of subsidy was raised from 25% to 37½%.

In persuance of a directive from the Prime Minister it was decided that the accommodation provided in the existing one room tenements should be so redesigned as to provide within the same area and within the same ceiling cost a smaller two roomed tenement containing a living room plus a multi-purpose room which would also contain cooking facilities.

For the intermediate categories of slum dwellers who cannot afford to pay the rent of a pucca tenement but can pay rent a little higher than that prescribed for an open developed plot of land, a proposal is under consideration to provide them with skeletal houses costing about Rs. 2000. Such structures besides containing a bath and W.C., would contain other components such as a roof over pillars which the prospective slum dwellers would complete for themselves and the rent for which would be Rs. 8 per month.

On the recommendation of the Housing Ministers Conferences held in 1957 and 1958 and of the Advisory Committee on Slum Clearance the Government of India agreed that in addition to slum clearance, State Governments should also take up Slum Improvement programmes as a means for ameliorating the living conditions of slum dwellers in the shortest possible time. No separate provision of funds was made for Slum Improvement. The required funds will have to be found from the existing allocation made to the State Governments under the Slum Clearance Scheme. Central assistance would, however, be in the form of loans only.

**Village Housing Projects Scheme**

During 1958-59 a sum of Rs. 48·28 lakhs was disbursed by the Union Ministry of Works, Housing and Supply consisting of Rs. 46·77 lakhs as loan and Rs. 1·51 lakhs as grant. An aggregate of Rs. 54·11 lakhs has been spent on this scheme.

Since the scheme was formulated only recently no tangible results were achieved. Preparatory work was under way but some States, like Assam and Orissa, experienced difficulty in securing technical help. Six research *cum*-training centres were set up with the help of financial assistance to the extent of $94,500 made available by the Ford Foundation. These Centres are located at Bangalore, Bombay, Sirpur, Delhi, Roorkee and Chandigarh. The courses provided at these centres are expected to enable the trainees to develop a proper approach to the rural housing problems with a view to evolving satisfactory solutions to the problems peculiar to the different regions of the country.

## House Building Advances to the Central Government Servants

During 1958-59 the number of applications received was 339. Of these 281 were approved. The amount sanctioned was Rs. 54·78 lakhs and the amount disbursed was Rs. 25·78 lakhs. There has been a steady increase in the number of applicants. Steps were taken in 1958-59 to liberalise the scheme specially in the case of those on the verge of retirement. The rules were amended to enable recovery of the part of advance from gratuity/death-*cum*-retirement gratuity, that might be admissible to them at the time of retirement. Similarly, rules were relaxed to enable the Central Government servants, specially the low paid employees, to build houses in the rural areas provided some basic amenities existed in those areas. These concessions were also extended to All India Service Officers who are on permanent deputation to the Centre, that is, officers in the pool or who have been on deputation to the Centre, continuously for a period of 6 years and to Government employees of the Union Territories. The recent extension of retirement age of the officers in certain ranks in the Defence Forces from 45 to 48 years has enabled a large number of service officers to avail of the benefit of this scheme.

## Other Housing Programmes

Besides the above Centrally sponsored and assisted schemes, many State Governments undertook other special housing programmes, *viz.* Poor Housing, Settlement and Colonisation schemes, Housing for scheduled and backward classes by the Government of Kerala, scheme for housing accommodation for working girls in Calcutta, Kalyani Township, Karaya Road Housing, Gariahat Housing, Bowali Mondal Road Housing by the Government of West Bengal, Rural Housing Programme in Andhra, etc. It is estimated that under these various schemes about Rs. 54 lakhs have been spent, about 900 tenements have been constructed, about 6,000 families without land or houses have been settled in colonies and about 1,500 plots of land have been developed and leased out to persons willing to build houses of their own.

During 1958-59, the Central Ministries also continued their housing programmes for their employees. The Ministry of Community Development constructed and renovated several thousand houses in the rural areas. The Ministries of Railways, Steel, Mines & Fuel, Transport & Communications and Works, Housing and Supply constructed about 25,000 houses for their staff. During the three years ending 1958-59 these Ministries constructed an aggregate of about 62,000 houses. The Ministry of Home Affairs incurred an expenditure of Rs. 374·85 lakhs on housing of scheduled castes and scheduled tribes. 41,330 tenements and 8,818 house sites were provided. The Ministry of Rehabilitation with the participation of State Governments and displaced persons constructed about 65,000 houses.

## Housing Research

Building research has been under the active consideration of the National Buildings Organisation which was set up in 1954. Work has been in progress in evolving methods for the reduction of building costs, use of indigenous materials, building techniques and designs, etc. There has been close co-ordination between various research organisations of the country dealing with building materials and techniques with the main idea of designing houses economically with the minimum use of essential materials like cement and steel.

With regard to Regional Planning Survey contemplated under the Plan for the Damodar Valley Region, a Joint Advisory Committee was set up during the period under review. The survey was undertaken in 1958.

## APPENDIX I

*Physical Targets—Subsidised Industrial Housing Scheme*

| Serial No. | State | 1956-57 | 1957-58 | 1958-59 | 1956-59 Total |
|---|---|---|---|---|---|
| 1. | Andhra | 146 | 1,000 | 428 | 1,574 |
| 2. | Assam | .. | .. | 136 | 136 |
| 3. | Bihar | .. | .. | 558 | 558 |
| 4. | Bombay | 3,011 | 5,070 | 2,478 | 10,559 |
| 5. | Jammu and Kashmir | .. | .. | .. | .. |
| 6. | Kerala | 55 | 145 | 50 | 250 |
| 7. | Madhya Pradesh | 450 | .. | 700 | 1,150 |
| 8. | Madras | 936 | .. | 516 | 1,452 |
| 9. | Mysore | 474 | 1,180 | 296 | 1,950 |
| 10. | Punjab | 100 | 530 | 717 | 1,347 |
| 11. | Rajasthan | 692 | 352 | 78 | 1,122 |
| 12. | Orissa | .. | 152 | 62 | 214 |
| 13. | Uttar Pradesh | 3,236 | 3,314 | 658 | 7,208 |
| 14. | West Bengal | 984 | 352 | 976 | 2,312 |
| | TOTAL (*a*) | 10,084 | 12,095 | 7,653 | 29,832 |
| 1. | Delhi | .. | .. | 1,380 | 1,380 |
| 2. | Himachal Pradesh | .. | .. | .. | .. |
| 3. | Andaman and Nicobar Islands | .. | .. | .. | .. |
| 4. | Manipur | .. | .. | .. | .. |
| 5. | Tripura | .. | .. | .. | .. |
| 6. | Pondicherry | .. | .. | .. | .. |
| 7. | N.E.F.A. | .. | .. | .. | .. |
| 8. | Laccadive, Minicoy and Admindive Islands | .. | .. | .. | .. |
| 9. | N.H.T.A. | .. | .. | .. | .. |
| | TOTAL (*b*) | .. | .. | 1,380 | 1,380 |
| | TOTAL (*a*+*b*) | 10,084 | 12,095 | 9,033 | 31,212* |
| | Employers | 1,694 | 3,260 | 1,920 | 6,874 |
| | GRAND TOTAL | 11,778 | 15,355 | 10,953 | 38,086 |

* Out of 31,212, 581 houses only have been put up by Co-operatives of workers.

## APPENDIX II

*Physical Targets—Low Income Group Housing Scheme*

| Sl. No. | State | 1956-57 | 1957-58 | 1958-59 | 1956—59 Total |
|---|---|---|---|---|---|
| 1. | Andhra | 844 | 1,404 | 1,036 | 3,284 |
| 2. | Assam | 354 | 130 | 99 | 583 |
| 3. | Bihar | 383 | 733 | 417 | 1,533 |
| 4. | Bombay | .. | .. | 4,915* | 4,915 |
| 5. | Jammu and Kashmir | .. | .. | .. | .. |
| 6. | Kerala | 24 | 180 | 302 | 506 |
| 7. | Madhya Pradesh | 598 | 682 | 384 | 1,664 |
| 8. | Madras | 723 | 551 | 556 | 1,830 |
| 9. | Mysore | 653 | 883 | 708 | 2,244 |
| 10. | Punjab | 3,052 | 2,669 | 1,721 | 7,442† |
| 11. | Rajasthan | 587 | 807 | 788 | 2,182 |
| 12. | Orissa | 166 | 228 | 120 | 514 |
| 13. | Uttar Pradesh | 2,281 | 1,235 | 1,099 | 4,615 |
| 14. | West Bengal | 124 | 307 | 786 | 1,217 |
|  | TOTAL (a) | 9,789 | 9,809 | 12,931 | 32,529 |
| *Union Territories* |  |  |  |  |  |
| 1. | Delhi | 956 | 186 | 328 | 1,470 |
| 2. | Himachal Pradesh | 126 |  | 130 | 256 |
| 3. | Andaman & Nicobar Islands |  | .. | .. | .. |
| 4. | Manipur | .. | .. | 113* | 113 |
| 5. | Tripura | .. | 28 | 9 | 37 |
| 6. | Pondicherry | .. | .. | .. | .. |
| 7. | N.E.F.A. | .. | .. | .. | .. |
| 8. | Laccadive and Amindive Islands | .. | .. | .. | .. |
| 9. | N.H.T.A. | .. | .. | .. | .. |
|  | TOTAL (b) | 1,082 | 214 | 580 | 1,876 |
|  | TOTAL (a+b) | 10,871 | 10,023 | 13,511 | 34,405 |

* Includes for 1956-57 and 1957-58 also.

† Includes 3815 houses—the construction of which was commenced during the first five year plan.

## *CHAPTER XVI*

# WELFARE OF BACKWARD CLASSES AND OTHER SOCIAL WELFARE SERVICES

Welfare programmes for backward classes are intended to supplement benefits derived from programmes designed to step up the rate of economic development of the country as a whole. While the main objective remained unaltered in 1958-59 the administrative machinery and programmes in the States were orientated, in the light of experience gained in the preceding years, to meet the needs of more intensified and speedier implementation of programmes.

Some of the issues that had emerged into focus were the feasibility of differentiating between the requirements of the economically more needy among the Scheduled Castes and Tribes and those who had risen above a particular level. In the case of Denotified Tribes it was found that settlement failed to wean them away from their old practices and ways of living. A community approach with a substantial content of economic programme seemed more suitable for their successful rehabilitation. Regarding 'Other Backward Classes' it was felt that special programmes may not be necessary as these communities did not suffer from social disabilities as did Harijans or isolation as in the case of Scheduled Tribes.

### PROGRESS OF EXPENDITURE

Progress of expenditure during the first three years of the second plan according to categories of backward classes is shown in Appendix I and programme-wise progress of expenditure in Appendix II to the Chapter.

An aggregate expenditure of about Rs. 34 crores as against the plan outlay of Rs. 90 crores had been incurred on the welfare of backward classes during the three years ending 1958-59. The progress of expenditure, although it had increased from year to year, was slow. One of the main reasons for the slow progress of expenditure was the procedural delay in the release of central assistance for state plans and centrally sponsored schemes. This procedure was modified in 1958-59 enabling the States to proceed directly with the implementation of schemes without obtaining prior technical sanction from the Home Ministry.

### Schemes for the Welfare of Scheduled Tribes

An expenditure of Rs. 4·27 crores was incurred for the state sector schemes and Rs. 3·15 crores for the centrally sponsored schemes in 1958-59. A sum of Rs. 31 lakhs was earmarked under the centrally sponsored programme for the rehabilitation of tribal people practising shifting cultivation in the States of Andhra Pradesh, Bombay, Bihar, Assam, Kerala, Madras, Madhya Pradesh, Mysore, Orissa and the Union Territories of Manipur and Tripura.

Expenditure on 43 multi-purpose blocks which were started in 1956-57 for the development of scheduled areas, showed a marked rise during 1958-59, having increased to Rs. 179 lakhs as compared to Rs. 21 lakhs in 1956-57 and Rs. 114 lakhs in 1957-58. During 1958-59, 39 per cent of the expenditure was on economic schemes, 16 per cent on communications, 9 per cent on rural health and housing, 8 per cent on education and 28 per cent on project headquarters.

During the year under review more than 10,000 tribal families were aided for economic uplift as compared to about 7,000 during 1956—58. The Central Advisory Board for Tribal Welfare, at a meeting held in September, 1958, had recommended that the tribals, who had reclaimed land, should be given permanent rights so as not to be liable to ejection.

Under educational schemes, more than 6 lakh tribal children were given scholarships and stipends for pre-matric studies. In this connection the Central Advisory Board for Tribal Welfare recommended that stipends should be considered to enable the tribal students to take full advantage of the funds provided by the Ministry of Education for their post-matric education.

Under the Dandakaranya Development Scheme an area of about 30,000 sq. miles has been earmarked for integrated development for the settlement of refugees and for the welfare of the local tribal inhabitants. The programme includes comprehensive development of the area covering agriculture, forestry, industries, irrigation, communications, health and education.

## Welfare of Scheduled Castes

For the welfare of Scheduled Castes the sum of Rs. 4·37 crores for the state sector schemes and Rs. 1·05 crores for the centrally sponsored schemes were spent during 1958-59.

More than 8,55,000 Scheduled Caste students had availed of scholarships during the year. A conference of Backward Classes held in February, 1958, at Delhi, recommended that there should be no educational institution, hostel or colony exclusively for Harijans and that the word 'Harijan' should be removed from existing denominational institutions and that at least 10 per cent non-Harijans should be admitted. Next to education, housing scheme was given the highest priority followed by public health and water supply. The Central Advisory Board for Harijan Welfare at a meeting held in 1958 recommended that preference should be given to sweepers while providing house sites and houses. This was conveyed to the State Governments. For economic uplift of the Scheduled Castes the Board recommended that Labourers' Co-operative Societies should be formed wherever possible and small contracts such as construction of causeways, planting of trees etc. should be given by the P.W.D. to such societies.

The Madras Government undertook a housing programme for the rehabilitation of 2,813 Scheduled Castes and 107 Other Backward Class families who were the victims of Ramanathpuram riots. Central assistance of about Rs. 16 lakhs was sanctioned for this purpose.

## Welfare of Denotified Tribes

Rs. 30·57 lakhs under state plan schemes and Rs. 13·80 lakhs under centrally sponsored schemes were spent during 1958-59 on the welfare of Denotified Tribes. Greater stress was laid on economic rehabilitation so as to wean them from their anti-social activities. More than 2,000 families were rehabilitated by giving them economic aid while 5,000 children were given stipends and scholarships.

### Welfare of Other Backward Classes

The amount of Rs. 92·19 lakhs was spent for the welfare of 'Other Backward Classes' in 1958-59 under the state sector and Rs. 7·66 lakhs on the centrally sponsored schemes. The bulk of the expenditure was incurred on the continuance of special education facilities.

### Assistance to Non-official Organisation

A number of non-official organisations operating on an All India scale were given financial assistance by the centre to the extent of Rs. 12·45 lakhs.

### Rehabilitation of Displaced Tribes

The problem of rehabilitation of tribes displaced as a result of the setting up of the industrial and power projects under the plan was taken up with the Ministries concerned. A meeting in this connection was held in the Planning Commission and it was decided that a joint report be submitted by the Ministries of Irrigation and Power, Commerce and Industry and Steel, Mines and Fuel.

## APPENDIX I

### *Progress of Expenditure—States and Centre (1956-59)*

(Rs. lakhs)

| Category | Plan Provision | | | 1956-57 | | | 1957-58 | | | 1958-59 | | | Total 1956—59 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | States | Centre | Total | States | Centre | Total | States | Centre | Total | States | Centre | Total | States | Centre | Total |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 1. Scheduled Tribes | 2943·24 | 2112·95 | 5056·19 | 285·21 | 119·36 | 404·57 | 371·09 | 218·71 | 589·80 | 427·48 | 314·99 | 742·47 | 1083·78 | 653·06 | 1736·84 |
| 2. Scheduled Castes | 2146·62 | 563·84 | 2710·46 | 269·48 | 55·30 | 324·78 | 351·48 | 67·55 | 419·03 | 437·37 | 104·91 | 542·28 | 1058·33 | 227·76 | 1286·09 |
| 3. Denotified Tribes | 203·28 | 111·00 | 314·28 | 22·64 | 8·47 | 31·11 | 21·95 | 14·60 | 36·55 | 30·57 | 13·80 | 44·37 | 75·16 | 36·87 | 112·03 |
| 4. Other-backward classes | 511·90 | 327·14 | 839·04 | 47·01 | 1·03 | 48·04 | 66·39 | 2·48 | 68·87 | 92·19 | 7·66 | 99·85 | 205·59 | 11·17 | 216·76 |
| 5. Aid to All India Voluntary Agencies and Miscellaneous | .. | 76·21 | 76·21 | .. | 8·63 | 8·63 | .. | 9·16 | 9·16 | .. | 12·45 | 12·45 | .. | 30·24 | 30·24 |
| TOTAL | 5805·04 | 3191·14 | 8996·18 | 624·34 | 192·79 | 817·13 | 810·91 | 312·50 | 1123·41 | 987·61 | 453·81 | 1441·42 | 2422·86 | 959·10 | 3381·96 |

(Expenditure for Multi-purpose Blocks under Ministry of Home Affairs for the three years 1956-57, 1957-58 and 1958-59 is not available.).

# APPENDIX II

*Programme-wise Progress of Expenditure According to Main Categories of Backward Classes*
(1956—59)

(Rs. lakhs)

| Categories | Groups | Plan Provision 1956-59 | Actual Expenditure | | | |
|---|---|---|---|---|---|---|
| | | | 1956-57 | 1957-58 | 1958-59 | 1956—59 Total |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| A. Scheduled Tribes | I. Education . | 928·41 | 75·04 | 105·14 | 140·55 | 320·73 |
| | II. Economic uplift . | 2415·73 | 180·35 | 260·68 | 308·44 | 749·47 |
| | III. Health, Housing and Other Schemes . | 1712·05 | 149·18 | 223·98 | 293·48 | 666·64 |
| | TOTAL . | 5056·19 | 404·57 | 589·80 | 742·47 | 1736·84 |
| B. Scheduled Castes | I. Education . | 1104·29 | 154·56 | 205·26 | 241·18 | 601·00 |
| | II. Economic uplift . . | 439·47 | 50·80 | 42·36 | 76·00 | 169·16 |
| | III. Health, Housing and Other Schemes . | 1166·70 | 119·42 | 171·41 | 225·10 | 515·93 |
| | TOTAL . | 2710·46 | 324·78 | 419·03 | 542·28 | 1286·09 |
| C. Denotified Tribes | I. Education . | 78·34 | 6·76 | 8·37 | 11·21 | 26·34 |
| | II. Other Schemes . | 235·94 | 24·35 | 28·18 | 33·16 | 85·69 |
| | TOTAL . | 314·28 | 31·11 | 36·55 | 44·37 | 112·03 |
| D. Other Backward Classes | I. Education . | 417·10 | 36·58 | 55.39 | 75·30 | 167·27 |
| | II. Other Schemes | 421·94 | 11·46 | 13·48 | 24·55 | 49·49 |
| | TOTAL . | 839·04 | 48·04 | 68·87 | 99·85 | 216·76 |
| Aid to Voluntary Agencies & Miscellaneous . . . . . | | 76·21 | 8·63 | 9·16 | 12·45 | 30·24 |
| | GRAND TOTAL . | 8996·18 | 817·13 | 1123·41 | 1441·42 | 3381·96 |

## II

## SOCIAL WELFARE

By 1958-59 a series of important organisational and procedural improvements had been carried out. The Central Social Welfare Board with its counterparts—the State Social Welfare Advisory Boards in every State provided the country with an organisational network for developing welfare services through voluntary organisations when the Second Plan was formulated. The Central Social Welfare Board apart from aiding voluntary welfare agencies had also established since 1954 a string of Welfare Extension Projects throughout the country, through which welfare services were extended to women and children in rural areas. In 1958-59 similar projects were organised in the urban areas. The process of organising welfare activities in the community development blocks on a co-ordinated basis, initiated in 1957, was intensified during 1958-59. In 1958-59, 83 co-ordinated projects were established bringing the total to 124.

In order to co-ordinate at the State level, welfare services dispersed over the various government departments, such as, Health, Education etc., several States had established Social Welfare Directorates or Departments. While this was a step in the right direction, the need was also felt for establishing better organisational relationship between Welfare Departments, State Social Welfare Advisory Boards, the Central Social Welfare Board and the various voluntary agencies.

### PROGRESS OF EXPENDITURE

Progress of expenditure during the first three years of the second plan is compared with the revised plan outlay in the table below:—

(Rs. crores)

| Head | Revised plan outlay 1956—61 | Actuals | | | |
|---|---|---|---|---|---|
| | | 1956-57 | 1957-58 | 1958-59 | 1956—59 Total |
| 1 | 2 | 3 | 4 | 5 | 6 |
| *Centre* | | | | | |
| 1. Central Social Welfare Board . . . | 9·20 | 0·830 | 1·129 | 1·456 | 3·415 |
| 2. Ministry of Home Affairs | 2·80 | 0·006 | 0·041 | 0·123 | 0·170 |
| TOTAL . . . | 12·00 | 0·836 | 1·170 | 1·579 | 3·585 |
| *States* | | | | | |
| 1. Welfare Extension Projects | 2·50 | 0·189 | 0·324 | 0·403 | 0·916 |
| 2. Social and Moral Hygiene and After-Care Services | 2·00 | 0·025 | 0·056 | 0·112 | 0·193 |
| 3. Care Programmes . . | 1·00 | 0·008 | 0·022 | 0·087 | 0·117 |
| 4. States' own Social Welfare Programmes . . . | 1·50 | 0·102 | 0·119 | 0·158 | 0·379 |
| TOTAL . . . | 7·00 | 0·324 | 0·521 | 0·760 | 1·605 |
| GRAND TOTAL . . | 19·00 | 1·160 | 1·691 | 2·339 | 5·190 |

By the end of 1958-59 Rs. 5·19 crores had been utilised as against the plan outlay of Rs. 19·00 crores *i.e.,* only 26·32 per cent. The slow progress of expenditure was due partly to the late finalisation of some schemes and partly due to the inability of State Governments to meet their share of the expenditure. Procedural delays for obtaining technical and financial sanctions also impeded progress.

In addtion, the Ministry of Education provided funds for the promotion of youth welfare activities, sports and physical education, education and welfare of the blind, deaf, dumb, the orthopaedically handicapped and the mentally retarded. Assistance is also given to voluntary organisations working for child welfare and for grants to universities and institutions for research in Social Welfare.

During 1956—59, Rs. 2·26 crores were spent as against the revised plan outlay of Rs. 6·34 crores i.e., 31·58 per cent of the plan outlay.

**Programmes under the Central Social Welfare Board**

In 1957-58 the problem arising from the expansion simultaneously but separately of the national extension and community projects on the one hand and the welfare extension projects sponsored by the Central Social Welfare Board on the other was examined jointly by the Ministry of Community Development and the Central Social Welfare Board. A programme for organising welfare activities in the community development blocks on a coordinated basis was worked out by which all projects set up after April, 1957, were to be located within the area of Stage I community development blocks.

It was also decided that all the original welfare extension projects would be converted into the coordinated pattern as the area of each was covered by a community development block and in future all welfare extension projects would be located only in community development blocks except in districts where community development blocks had not been established.

By the end of 1958-59, 124 coordinated projects had been organised; of these 83 were set up in 1958-59. Total number of welfare extension projects of original type established upto 1958-59 were 439, of these 147 were established since the commencement of the second plan and only 4 in 1958-59.

With effect from April 1956 the Central Social Welfare Board introduced the scheme of grants on a plan period basis to suitable established institutions and new institutions in underdeveloped areas to enable them to plan and execute programmes of a long term nature. During the year 1958-59 'plan period' grants amounting to Rs. 9·06 lakhs to 64 organisations and yearly grants amounting to Rs. 7·17 lakhs to 460 institutions were sanctioned.

Besides the above two programmes, the Central Social Welfare Board introduced new schemes like urban welfare projects, night shelters, production units, holiday homes for children, condensed courses of training for adult women, and sanctioning grants for *gramdan* village work.

During 1958-59, 69 urban welfare projects were sanctioned. The object of this scheme is to assist voluntary organisations to provide cultural and social amenities for less developed localities in urban areas. Details were worked out with the All India Sarva Seva Sangh for grants for gramdan work. Grants amounting to Rs. 14·18 lakhs were sanctioned to 52 institutions for providing a two year condensed course to adult women.

A new experiment for establishing night shelters through suitable voluntary organisations to provide cheap accommodation for poor wage earners in industrial areas was undertaken. Sanction for 30 Night Shelters was given and the task of coordinating this programme was entrusted to the Bharat Sevak Samaj. Execution of the programme for Holiday Homes for children was entrusted to the Indian Council for Child Welfare. The establishment of three categories of Production Units were taken up—units attached to State Homes under the aftercare programme and institutions for the welfare of physically handicapped, units set up with the help of various Boards Commission under the Ministry of Commerce and Industry and units set up by voluntary welfare organisations.

At the instance of the Ministry of Education, the Central Social Welfare Board, through its Project Implementing Committees, undertook a survey of the handicapped in the welfare extension project areas.

Out of the revised plan provision of Rs. 9·2 crores, the actual expenditure incurred by the Central Social Welfare Board amounted to Rs. 0·83 crores in 1956-57, Rs. 1·13 crores in 1957-58 and Rs. 1·46 crores in 1958-59.

## Programmes under the Ministry of Home Affairs

Under the care-programme, the Ministry of Home Affairs approved the establishment of 8 Certified Schools, 10 Remand Homes, 1 Borstal School, 5 Probation Hostels, 7 Beggar Homes, 1 Infirmary, 1 Children's Home, and the appointment of 103 Probation Officers and 16 Prison Welfare Officers. During the year under review, 8 Remand Homes, 5 Certified Schools, 1 Probation Hostel, 6 Beggar Homes and 1 Children's Home were established and 27 Probation Officers and 8 Prison Welfare Officers were appointed. Prior to 1958-59 only 2 Probation Hostels, 2 Beggar Homes, 1 Remand Home and 1 Borstal School had been set up.

Under the after-care programme, the Ministry of Home Affairs approved 47 State Homes and 123 District Shelter Centres. During 1958-59, 18 State Homes and 33 District Shelter Centres were set up bringing the total to 36 and 71 respectively. Central assistance on these schemes amounted to Rs. 12·30 lakhs, being significantly higher than in the preceding two years.

## Welfare Schemes of the State Governments

The State Governments, besides contributing their share of expenditure on the centrally sponsored schemes of welfare extension projects, social defence and after-care, implemented a number of schemes for the welfare of women, children, physically handicapped, youth welfare, research, and training, on their own. The 'actual' amount spent by the State Governments was Rs. 32·4 lakhs in 1956-57, Rs. 52·1 lakhs in 1957-58 and Rs. 76·0 lakhs in 1958-59.

## *CHAPTER XVII*

# LAND REFORMS

There was considerable activity during the year 1958-59 in the implementation of the land policy laid down in the Second Five Year Plan. The progress made in the various States is summarised in the following paragraphs.

### ABOLITION OF INTERMEDIARIES

Abolition of intermediaries has been completed in most parts of the country. In 1958-59, legislation was enacted for abolition of *zamindari* and *biswedari* tenures and cash jagirs in Rajasthan, jagirs and inams in Kutch area and certain inferior watans in the former Bombay and Marathwada areas. Legislation was also undertaken for the abolition of muafis and inams in Madhya Bharat and inams held by religious and charitable institutions of public nature in Assam. In Mysore, the Personal and Miscellaneous Inam Abolition Act was amended to facilitate implementation. In Kerala, legislation was passed for abolition of the Jenmi tenure in Travancore area and proposals were formulated for the abolition of intermediary rights in Sreepadam and Pandaravaga lands. A Bill was drafted for abolition of intermediary tenures in Tripura.

Implementation of legislation for abolition of post-1936 inam estates and minor inams in Andhra area, resumption of jagirs in Rajasthan and State acquisition of zamindaris in Assam was in progress. In Andhra, 725 post-1936 inam estates out of 1062 were taken over by the State.

Steps were taken in a number of States for expediting payment of compensation for acquisition of rights of intermediaries. According to the information available nearly Rs. 129 crores had been paid as compensation to ex-intermediaries by the end of 1958-59.

### TENANCY REFORMS

Legislation for tenancy reforms was undertaken during the period under review in Vidarbha and Kutch areas of Bombay, Kerala, Madhya Pradesh, Mysore and Orissa; proposals were formulated in Manipur and Tripura. Pending enactment of comprehensive legislation interim protection to tenants was continued in Andhra, Vidarbha and Kutch areas of Bombay, Kerala, parts of Madhya Pradesh, Madras, Mysore, Orissa and Manipur. The progress made in individual States is indicated in the following paragraphs.

#### *Andhra*

In Andhra area, tenants in possession of land at the commencement of the Andhra Tenancy Act of 1956 were given a minimum term of 3 years. The Act was amended to extend the term for another year, that is, up to June 1, 1960. Comprehensive proposals for tenancy reforms for the entire State was under consideration of the State Government.

*Assam*

In Assam, proposals were formulated for conferring optional rights of purchase on tenants and sub-tenants in respect of non-resumable area on payment of purchase price varying between 15 and 32½ times the assessment.

*Bombay*

In Bombay, comprehensive tenancy legislation was enacted for Vidarbha and Kutch area. It provides for:

(a) fixation of maximum rent at 1/6th of the gross produce or 3 to 4 times the assessment according to the class of soil, whichever is less;

(b) fixity of tenure subject to the landlord's right to resume a limited area for personal cultivation. The limit of resumption is three family holdings. A tenant is, however, to retain half the area except when the owner's holding is one-third of a family holding or less; and

(c) an optional right of tenants to purchase ownership of land up to three family holdings subject to the condition that the land owner is left with the family holding. The Government have also been empowered to transfer ownership to tenants with effect from April 1, 1961. The purchase price varies between 6 to 12 times the fair rent.

In the former Bombay area, implementation of the Tenancy Act is in progress. The Act was amended with a view to facilitating implementation. It has been provided that tenants who had been unlawfully evicted from land before 1st April, 1957, may also acquire ownership rights. It has been reported that more than 13 lakh tenants acquired ownership in respect of nearly 24 lakh acres of Tillers' Day (April 1, 1957) in the former Bombay area. Landlords resumed 94,400 acres from 16,888 tenants for personal cultivation.

*Kerala*

In Kerala, the Agrarian Relations Bill* was reported upon by a Select Committee of the State Legislature during the period under review. It provides for:

(i) fixity of tenure for tenants (including crop-sharers). A landlord could, however, resume for personal cultivation land held by a tenant in excess of the ceiling limit (*i.e.* 15 acres of double crop paddy land or land of equivalent value). A landlord owning not more than 10 acres of double crop paddy land but cultivating less than 5 acres of double crop paddy land could in addition resume land from a crop sharer up to half the area leased to make the area under his personal cultivation up to 5 acres of double crop paddy land. There are special provisions for small holders (*i.e.* persons who hold 5 acres of double crop paddy land or less). In Travancore, they may resume half the holding and receive fair rent for the remaining half or permit the tenant to retain entire holding in which case tenant would pay rent at 75 per cent of contract rent. In Malabar and Cochin areas where tenants already enjoyed fixity of tenure an option was given to the tenant either to purchase the entire area on payment of specified price or surrender half the area in lieu of purchase price and become owner of the remaining half or continue to be a tenant in respect of the entire area on rent at 85 per cent fixed under Malabar Act or 75 per cent of contract rent.

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*The Bill has since been passed with some modifications and is awaiting President's assent.

(ii) fixation of fair rent with regard to different classes of land by the Land Tribunal within the maximum and minimum rates specified in the Bill. For instance, in case of paddy lands the fair rent would be between one-fourth and one-sixth of the gross produce. In case where lands have been converted into double crop paddy land by tenants labour, the fair rent would be lower.

(iii) *Ownership for tenants.*—Tenants were to be deemed to have become owners on Peasants' Day to be notified by the State Government. The Government was to recover from tenants, as purchase price, a sum equal to 16 times the fair rent fixed under the provisions of the Bill, 12 times the fair rent fixed under the Malabar Tenancy Act or 12 times the actual rent, at the option of the tenant, and pay to the landlord as compensation 30 to 100 per cent of the purchase price recoverable from the tenant, on a graded slab basis. Religious and charitable institutions were to be paid perpetual annuity equal to 5 per cent of the purchase price recoverable from tenants.

Pending enactment of the Bill, the life of the Stay of Eviction Proceedings Act, 1957, was extended.

*Madhya Pradesh*

In Madhya Pradesh, a comprehensive Bill was reported upon by the Select Committee*. The Bill included provisions for:

(1) fixation of maximum rent at four times the land revenue for irrigated land and twice the land revenue for other lands. Provision was also made for commutation of kind rents into cash rents:

(2) security of tenure for every tenant in respect of a minimum area of 5 acres of irrigated land or 10 acres of un-irrigated land. Land held by tenants in excess of the minimum area can be resumed by the land holder subject to the limit of 25 acres of un-irrigated land or 12½ acres of irrigated land. Provision has also been made for restoration of tenants who may have been ejected or dispossessed of their land wrongfully during the past 3 years;

(3) ownership for tenants in respect of non-resumable lands. The compensation is fifteen times the land revenue, payable in 5 annual instalments.

*Madras*

Proposals for comprehensive tenancy reforms were under consideration of the State Government. Meanwhile interim protection to tenants was extended.

*Mysore*

A Bill for comprehensive tenancy reforms throughout the State was introduced in the State Legislature. It includes provisions for:

(i) fixation of maximum rent at 1/4th of the gross produce in case of lands with assured irrigation facilities from tanks or river channels and 1/5th in other cases;

(ii) security of tenure for tenants on the line recommended in the Plan;

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*The Bill with some modifications has since been passed.

(iii) regulation of 'surrenders' on the lines recommended in the Plan;

(iv) transfer of ownership to tenants in respect of non-resumable area from a date to be notified on payment of compensation at fifteen times the rent (minus land revenue) and in addition value of structure of permanent nature and trees on land.

Pending enactment of the comprehensive legislation, the interim protection given to tenants was extended.

*Orissa*

In Orissa, a comprehensive Bill* was introduced in the State Legislature, which included provisions for:

(i) fixity of tenure for tenants including crop sharers subject to landlord's right to resume land on grounds of personal cultivation. The resumption limit is 33 standard acres (99 ordinary acres). A landlord who holds less than 7 standard acres under personal cultivation may resume the entire land from tenants. If a tenant is left with less than 7 standard acres as a result of resumption he is entitled to receive compensation equal to 1/4th of what he would be liable to pay for acquisition of ownership. If a landlord holds more than 7 standard acres under personal cultivation, he can resume only such land as is held by the tenant in excess of 7 standard acres.

(ii) conferment of ownership on tenants in respect of the non-resumable land. If a tenant does not apply for the purchase of ownership by a specified date, he becomes liable to ejectment from land. The compensation is 120 maunds of paddy per standard acre or 3/4th of the market value of the land whichever is less.

Pending enactment of this law, interim protection was extended.

*Punjab*

Punjab and Pepsu laws were amended to provide safeguards for tenants against devices adopted by landlords to evade the provision of tenancy laws. Restoration was provided for tenants who are evicted on account of redemption of a mortgage or a decree in a pre-emption suit.

*Rajasthan*

The Rajasthan Tenancy Act, 1955 was amended to provide for transfer of ownership rights to tenants. A tenant will be deemed to have acquired ownership unless he intimates otherwise within six month. The purchase price for acquisition of ownership was fixed at twenty times the rent rate for irrigated lands and fifteen times for other lands.

*Union Territories*

Delhi Land Reforms Act, 1955 was amended with a view to extending the provisions of the Act to 15 Improvement Trust villages which had earlier been excluded from the purview of the Act. Comprehensive proposals, including provision for tenancy reforms, were formulated for Manipur and Tripura. Pending enactment of comprehensive legislation in Manipur protection from ejectment was continued.

### CEILING ON HOLDING

During the period under review legislation was undertaken for fixation of ceiling on future acquisition in almost all States in which it had not been enacted earlier. Bills were introduced or proposals formulated in a number of States for ceiling on existing holdings as well. The State-wise position is shown below.

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*The Bill has since been reported upon by the Select Committee.

*Andhra Pradesh*

The Andhra Pradesh Ceiling on Agricultural Holdings Bill, 1958 which provides for ceiling on existing holdings as well as on future acquisition was referred to a Joint Select Committee. Its main features are as follows:

(a) Ceiling limit in respect of existing holdings will be the extent of land yielding a net income of Rs. 5,400 per annum. Net income will be calculated as 50 per cent of the value of gross produce. In addition to ceiling area grazing land upto 1/3rd of the ceiling area will also be retained by the land-holder.

(b) Compensation will be paid on a graded slab basis ranging from 10 to 5 times the net income of the surplus land.

(c) Ceiling on future acquisition will be 2/3rds of the ceiling on the existing holdings, *i.e.*, a net income of Rs. 3,600.

*Assam*

Legislation for ceiling on existing holdings as well as on future acquisition was enacted in 1957. Rules have been framed for implementation of the Act. Returns were obtained from land-holders with a view to locating large holdings and determining the surplus lands.

*Bihar*

Proposals for ceiling on land holdings were under consideration of the State Government*.

*Bombay*

Legislation was enacted for fixation of ceiling on future acquisition at three family holdings in Vidarbha and Kutch areas of the State. The area of a family holding will be determined by the Tribunal. Provision has also been made in the legislation empowering the State Government to assume management of and acquire land held by a person in excess of six family holdings if it does not constitute a compact block. This provision has not been so far enforced. Proposals of a ceiling for the reorganised State were under consideration of Bombay Government.

*Jammu & Kashmir*

Ceiling had been imposed earlier and about 2·3 lakh acres were redistributed to tenants who were already in possession of surplus lands and another 2·2 lakh acres allotted to displaced persons.

*Kerala*

The Kerala Agrarian Relations Bill which was during the period under review reported upon by Select Committee includes provisions for ceiling on existing holdings as well as future acquisition. The level of ceiling for a family of five members (husband, wife and minor children) is 15 acres of double crop paddy land. An additional acre of double crop paddy land will be allowed for each additional member in excess of five subject to the outside limit of 25 acres of double crop paddy land for a family. The ceiling for an unmarried adult is 7½ acres of double crop paddy land. One acre of double crop paddy land will be equal to one acre under coconut or arecanut, 1½ acres of single crop paddy land, 2 acres of plantation and 2½ acres of paramba growing cashew nut and thirasu lands.

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*A Bill has since been introduced.

The compensation for surplus land varies between 25 to 60 per cent of the market value, on a slab basis. The compensation will be payable in cash on negotiable lands redeemable in 10 years.

Orange orchards and graft mango orchards have been exempted. Plantations of tea, coffee, rubber or cardamom or such other kinds of special crops as may be specified by the Government are also exempted. A planter would, in addition, be permitted to retain land required for ancillary purposes and also lands lying contiguous to the plantation subject to a limit of 20 per cent of the plantation area.

### *Madhya Pradesh*

The Madhya Pradesh Land Revenue Code Bill, 1958 as reported upon by the Select Committee, provides for fixation of ceiling on future acquisition. Ceiling limit will be prescribed in the Rules. Proposals for ceiling on existing holdings were under consideration*.

### *Madras*

Proposals were under consideration of the State Government.**

### *Mysore*

The Mysore Land Reforms Bill, 1959 which was introduced in the State legislature includes provisions for imposition of ceiling on existing holdings as well as future acquisition. The ceiling limit will be an area yielding a net annual income of Rs. 3,600 (*i.e.* a gross annual income varying from Rs. 7,200 to Rs. 10,800). Exemptions from ceiling have been provided on the lines recommended in the Second Five Year Plan. Compensation will be equal to fifteen times the net annual income.

### *Orissa*

The Orissa Land Reforms Bill, 1959 which was also introduced† in the State legislature includes provisions for ceiling on existing holdings as well as future acquisition. The ceiling limit is 33 standard acres (between 33 and 99 acres depending upon the class of soil). The owner will be required to dispose of the excess land to prescribed categories of persons at a price as may be agreed upon between the parties. If he fails to dispose of the land within the prescribed period the revenue officer may direct him to sell the land to persons selected by the revenue officer.

### *Punjab*

In the former Punjab area, provision was made for imposition of a ceiling on future acquisition at 30 standard acres (in case of displaced persons 50 standard acres). A provision already existed authorising the Government to settle as tenants persons who were or may be ejected, on lands under personal cultivation of owners above the permissible limit. This provision was under implementation. Declarations were obtained from owners to locate surplus lands.

In Pepsu area, provisions for a ceiling on future acquisition as well as on existing holdings had been made in 1956. Rules were framed in the year under review for implementing these provisions. Declarations were obtained from landowners regarding the extent of land held by them.

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*A Bill has since been introduced and reported upon by the Select Committee.

**A Bill has since been introduced.

†The Bill has since been reported upon by the Select Committee.

*Rajasthan*

A Bill was introduced in the State legislature for imposition of ceiling on future acquisition as well as existing holdings. The ceiling would be 30 standard acres (a standard acre being an area of land which would yield 10 mds. of wheat). An allowance will be made for larger families. Compensation for surplus lands will be related to the rent rate.

*Uttar Pradesh*

The ceiling limit on future acquisition was reduced from 30 to 12½ acres. The question of ceiling on existing holdings was under consideration*.

*West Bengal*

Ceiling on existing holdings as well as future acquisition had been provided earlier. The ceiling limit is 25 acres. These provisions are under implementation. About 1·5 lakh acres have become available for re-distribution. Pending final settlement surplus land was allotted to landless agricultural workers on a year-to-year basis and bargadars temporarily retained land in case they held surplus land in their possession.

*Union Territories*

The Delhi proposals for ceiling on existing holdings were under consideration.*

The Himachal Pradesh provisions already existed for imposition of ceiling on existing holdings. Implementation was held up due to stay orders passed by the Supreme Court in writ petitions.

In Manipur and Tripura, proposals were formulated for the imposition of ceiling on holdings.**

### CONSOLIDATION OF HOLDINGS

Consolidation of holdings continued to make rapid progress in Uttar Pradesh, Punjab and Bombay. In Madhya Pradesh, Mysore (ex-Hyderabad area) Andhra Pradesh (Telangana Area) and Rajasthan progress had also been made though on a small scale. In Bihar, it was taken up as a pilot project. The progress in the different States in terms of area consolidated is indicated below:–

(in lakh acres)

| States | Achievement upto 31-1-59 | Work in progress on 31-1-195 |
|---|---|---|
| Uttar Pradesh | 23·9 | 29·9 |
| Punjab | 90·1 | 28·2 |
| Bombay | 15·6 | 22·0 |
| Madhya Pradesh | 28·9 | 2·6 |
| Mysore | 5·2 | 5·0 |
| Rajasthan | 2·5 | 8·8 |
| Delhi | 2·0 | .. |
| Himachal Pradesh | 0·4 | 0·2 |
| Andhra Pradesh | 2 villages | 2·4 |
| Bihar | .. | 1·4 |
| ALL INDIA | 168·6 | 100·5 |

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*A Bills has since been introduced and reported upon by the Select Committee.

**Bills have since been introduced and reported upon by the Select Committees.

Rs. 278·35 lakhs were spent in 1958-59 against Rs. 240·63 lakhs in 1957-58 and Rs. 211;84 lakhs in 1956-57 for consolidation of holdings.

## BHOODAN AND GRAMDAN

According to the information supplied by the Akhil Bharat Sarva Seva Sangh, 42,30,409 acres had been donated in Bhoodan upto 31st December, 1958 out of which 8,52,352 acres had been distributed.

Upto 31st January, 1959, 4,570 villages had been donated in Gramdan. Orissa was leading with 1,960 followed by Bombay 600, Kerala 543, Andhra Pradesh 481, Madras 254, Madhya Pradesh 178, Bihar 152, Assam 127 and Rajasthan 113.

Government of India sanctioned two schemes for settlement of landless agricultural workers on Bhoodan and Gramdan lands in Bihar:

(1) Rs. 2½ lakhs for 10 pilot projects for resettlement of 350 families on cooperative basis. Upto March 1959 Rs. 76,172 were spent and 230 families had been settled.

(2) Rs. 30 lakhs for a scheme of financial assistance to individual settlers on Bhoodan lands. Rs. 394,276 were spent upto March 1959 and 3063 families had been settled.

The Akhil Bharat Sarva Seva Sangh prepared a Model Bill to facilitate management of Gramdan lands. A Bill on these lines was introduced in Rajasthan. Other State Governments were also considering the adoption of such legislation in the light of their local conditions and needs. The Madras Government enacted legislation which besides facilitating the donations for Bhoodan Yagna and transfer and settlement of such lands, included provisions for vesting and management of Gramdan lands in Sarvodaya Panchayats especially set up for the purpose. In Andhra Pradesh a Bill on more or less similar lines was introduced in the State legislature. In Bihar, the Bhoodan Yagna Act was amended with a view to enabling the State Bhoodan Board to allot land jointly to a group of cultivators or to the village community as a whole.

## *CHAPTER XVIII*

## PUBLIC COOPERATION

The year under review registered some progress from the point of view of both clarification of policy in regard to public co-operation and implementation of programmes of public cooperation.

The reconstitution of the National Advisory Committee on Public Cooperation marked an important stage in policy clarification. The reconstituted committee has the Prime Minister as its chairman and its membership includes members of the Planning Commission, representatives from important all-India voluntary organisations, representatives from the Lok Sabha and Rajya Sabha and a few non-officials.

The main tasks of the committee are to review and assess the progress of public cooperation in relation to national development; to advise the Planning Commission from time to time regarding the progress of public cooperation in relation to the fulfilment of the Plan; and to make suggestions and recommendations on matters of policy and on programmes relating to public cooperation.

The first meeting of the reconstituted committee was held in November, 1958. The Prime Minister who presided over the meeting underlined the main function of the committee as one of maximising public participation in plan programmes by suggesting ways and means to create 'an emotional reaction and feeling and sensation amongst the people' that all developmental effort was their job and that they had to shoulder the main burden. He, therefore, advised the committee to split itself into small groups to examine in detail the various issues involved.

In pursuance of this suggestion the National Advisory Committee appointed three sub-committees (i) to make proposals to strengthen people's agencies; (ii) to define broadly the general approach to be adopted for securing public participation in Plan activities; and (iii) to formulate concerete proposals for stimulating active public participation in the programme of the year, namely, food production including provision of drinking water. The reports of these sub-committees were submitted to the National Advisory Committee.

A provision of Rs. 5 crores was made in the second plan for schemes relating to public cooperation. This amount includes a sum of Rs. 1 crore under the Ministry of Irrigation and Power for public cooperation schemes. During 1956-57 a provision of Rs. 25 lakhs was made for public cooperation schemes other than those under the Ministry of Irrigation and Power. Actual expenditure during the year, however, came to be Rs. 4·8 lakhs. During 1957-58, the actual expenditure on public cooperation schemes was Rs. 40,000 against the budget provision of Rs. 10 lakhs. The budget for 1958-59 provided for Rs. 10 lakhs for financial assistance to public cooperation schemes. The actual amount utilised during the year came to Rs. 1·89 lakhs.

In January 1958 the Planning Commission defined the scope and content of acceptable public cooperation schemes and circulated this information amongst all voluntary organisations in the country. The Bharat Sewak Samaj which was among the 26 organisations to whom the decision was communicated, submitted its scheme for the establishment of 100 Lok Karya Kshetras during 1958-59 in the country where public cooperation activities would be undertaken on the lines laid down by the Planning Commission. The scheme was scrutinised in the Planning Commission and Rs. 50,000 were sanctioned for establishing in the first phase a batch of 25 Lok Karya Kshetras by the Bharat Sevak Samaj. An advance of Rs. 4,000 was sanctioned to the Bharat Sevak Samaj to meet the initial expenditure on the setting up of Lok Karya Kshetras and making preliminary arrangements in respect of training of sahyogies.

The Lok Karya Kshetra scheme aims at the mobilisation of people's effort. It is a programme which emphasises that the people should themselves initiate and execute programmes for their common welfare. Lok Karya is the medium through which the Bharat Sevak Samaj seeks to initiate a process of transformation whereby developmental work will resolve itself into people's programmes (Lok Karya) with official participation and cooperation wherever needed. The programme of Lok Karya Kshetras is educational and promotional.

Lok Karya Kshetras have been established in all the States. With a view to providing trained personnel (Sahyogis) to the Lok Karya Kshetras the Government of India approved the training scheme of sahyogies submitted by the Bharat Sevak Samaj. A maximum outlay of Rs. 60,000 (Rs. 50,000 for recurring and Rs. 10,000 for non-recurring expenditure) was agreed to; the Bharat Sevak Samaj was to contribute 20 per cent of the recurring expenditure. During 1958-59 a training centre was established in Delhi and a grant of Rs. 27,300 was sanctioned to meet the expenditure of the first batch of trainees consisting of 60 sahyogies.

It was conceived that the training camps for sahyogies would be conducted on Ashram lines where close relationship between the teacher and the taught is established. The training would be largely on seminar lines enabling full discussion of issues by participants.

The scheme for seeking public cooperation in ameliorating the economic and social welfare of slum dwellers, sponsored by the Delhi branch of Bharat Sevak Samaj, was continued during 1958-59 and a total grant of Rs. 63,000 was sanctioned for the purpose. The scheme is being conducted as a pilot field research project to evolve a suitable pattern for bringing about social and economic improvement in the living conditions of slum dwellers mainly through their own efforts. It has made a promising start. The night shelter scheme came into being mainly through the pioneering efforts of the social workers working in this project. The working of the scheme was examined by the Planning Commission and steps were initiated for launching of similar activities in other cities in the country where the slum problem was equally acute.

## PLANNING FORUMS

The stimulation of interest among the students through planning forums organised in colleges and universities maintained a steady tempo during the year.

A regional conference of the planning forums in the Eastern region was held in May, 1958. The conference decided that forums should undertake action oriented village studies and make quick attitude surveys of plan-consciousness among the educated, particularly the students. Their role in the small savings drive was to be confined to popularising the movement among the students and teachers of their own institutions.

The planning forums all over the country observed the National Plan Day on September 13, the day on which the Parliament set its seal of approval on the Second Five Year Plan. Seminars, symposia, debates and exhibitions were organised by the forums as part of the celebrations for highlighting important aspects of the plan.

Grants totalling Rs. 43,500 were sanctioned to selected planning forums during 1958-59. An innovation introduced during the year was the travel grant under which members of 15 selected planning forums, adjudged as the most active, were given a grant of Rs. 500 each to enable them to visit plan projects in their neighbourhood. Eighty-three planning forums received a total grant of Rs. 33,000 to enable their members to participate in construction activities under the plan. Another grant of Rs. 200 each for 15 planning forums was sanctioned for purchasing books on economic development and planning.

The Second all-India Conference of university planning forums was held in December 1958. The main feature of this conference was an interesting seminar on the approach to the third five year plan in which noted economists exchanged views with the members of the forums on the projections and problems of the third plan. The discussion at the seminar provided a view of the shape of things to come as visualised by the members of the forums. The proceedings were published in the form of a pamphlet.

The Central Executive of the Planning Forums which also met during the year reviewed the work of the Planning Forums and outlined their future programme.

## PROHIBITION

Banning of public drinking in hotels, restaurants, clubs and hostels has been suggested in the second plan as the initial step in the formulation of the phased programme of prohibition, where such policy was not in force. A review of the steps taken by the State Governments concerned disclosed little progress. A circular letter was therefore issued in November, 1958 to all State Governments, except Bombay and Madras where total prohibition existed, emphasising the need for taking vigorous measures to ban public drinking.

As part of the Planning Commission's responsibility to keep a close watch on the progress of the prohibition programme throughout the country, steps were taken to secure from the States full information regarding excise revenue, area and population under prohibition, consumption of liquor and narcotics and steps taken towards the implementation of prohibition policy

### PLAN PUBLICITY

The activities of the media units of the Information and Broadcasting Ministry during the year 1958-59 involved an expenditure of approximately Rs. 81 lakhs, under the Integrated Publicity Programme for Plan Publicity. The theme "Help the Plan—Help Yourself" was projected through all media.

The Films Division produced 25 films—17 under plan publicity and 8 under plan development during the year. Among the titles included were Bhoodan-Yagna, Development of Road Transport, Small Savings Scheme, Weather in the Service of the Farmer, Technological Institute at Kharagpur, and the Chambal Project. Among films which either covered plan activities or in which there was a reference to plan activities were "Cottage and Small Scale Industries", "Family Welfare in Urban Areas", "Metric System", "How to Organise Kisan Melas", etc. The total number of such films was 38. The Children's Films Society, which was registered in 1955, continued to get grant-in-aid from Government. During this year, the Society produced a feature film entitled "Haria" and another short film "Gulab-Ka-Phool" in Hindi and Bengali.

The Press Information Bureau opened a new branch at Jaipur and strengthened the set-up of information centres at State capitals. A Centre at Bhopal on a cost-sharing basis with the Madhya Pradesh Government was also sanctioned during the year. The Bureau organised nine conducted tours of special correspondents and newspaper representatives during the year.

During 1958-59, the Publications Division issued 115 pamphlets and supplied 23,380 photographs for exhibition purposes.

The Directorate of Audio Visual Publicity, in its programme, laid emphasis on the role of individuals or groups in implementing the five year plans. The attempt was to bring home the benefits that accrue to the individual from the development programmes.

A booklet entitled "You And The Plan" points out how people in different walks of life *e.g.*, farmers, industrial workers, office-goers, housewives and students can help in the plan. Three lakh copies of these were produced in English and Hindi and 11 regional languages. The other booklet "Plan for Higher Yields" shows farmers how they can plan their farming and increase food production. For the industrial workers, a poster meant to exhort them to help in increasing production and thereby enjoy greater amenities was produced in English, Hindi and 11 regional languages. Two and half a lakh of these posters were distributed, besides a similar poster meant for farmers in respect of agricultural production. Handbills on the same theme in English, Hindi and Urdu were prepared for distribution to students, office workers, housewives, etc. For general plan publicity, two illustrated booklets—one on industrial development and the other on irrigation and power—were produced in English. Including the language versions of these, the total number of copies was about 2 lakhs each. Besides, a summary of the second plan, consequent on the changes made by the National Development Council, was prepared in the form of a handy illustrated booklet and distributed in 13 languages.

Photo-posters, consisting of a number of photographs each devoted to one aspect of plan development, were prepared in the series, "Building A New India" and were found to be useful in schools, information centres, libraries, etc. These posters, also produced in English and other languages were distributed down to the village level. The roles of women and panchayats in the country's development were highlighted in two broadsheets entitled "Women on the Move" and "Panchayat—the Hub of Village Life".

For press advertisements, a sum of Rs. 1·75 lakhs was made available. In addition to the usual media, Panchangs were also utilised and a write-up on the aims and objects of the second five year plan was released in 35 different language Panchangs. In certain cases, special media lists were drawn up to suit the advertisements. For instance, the one dealing with the students' role in the five year plans was issued in a hundred college and university magazines besides the usual dailies and weeklies.

In addition to the enamel hoardings, colourful metallic tablets were prepared for display in railway coaches. These feature projects such as Bhilai, Bokaro, Bhakra, the Integral Coach Factory, etc. The Exhibition Branch of the Directorate of Audio-Visual Publicity organised and participated in 19 exhibitions in different parts of the country.

In All India Radio's spoken-word programmes publicity for the five year plan occupied an important place. In addition to the general programmes in which the message of the plan is carried, special audience programmes—industrial, rural, school, women etc.,—emphasised the various aspects of plan progress. In all 5630 items consisting of talks, dialogues, reports, features etc., were broadcast during the year. Besides, newsreel coverage was arranged for various developmental activities and the projects in progress on the basis of actuality recordings on the spot. Music was also pressed into service and songs specially composed on various "Help the Plan" schemes were set to popular tunes and broadcast in the rural programmes.

The Song and Drama Division approved 21 new scripts of plays and 25 songs during the year. Plays entitled "Mangu" and "Man Bhang" were translated from Hindi into Assamese and the Kannada play "Kartarana Kammata" was translated into Hindi. A pamphlet containing songs on constructive work and developmental themes was compiled for publication. The activities of the Division were conducted in close co-ordination with the Directorate of Field Publicity through its Field Units. During the year 365 plays were staged; 310 Hari Kathas and 106 puppet shows, besides Qawalis and Kavi Sammelans, were arranged.

Three new regional offices were established at Bhubaneshwar, Bangalore and Shillong, bringing the total number of regional offices to 14, under the Directorate of Field Publicity. The mobile units, 62 in number visited 16,797 places during the year and held 18,643 meetings and discussion groups. An estimated audience of 1·6 crores participated in these functions.

Throughout the year, the Ministry continued to work in cooperation with non-official agencies in furtherance of the programme to organise plan publicity. Thus, grants were given to the Jan Jagran Group of the Bharat Sevak Samaj and also to some University Planning Forums for observing the National Plan Day. The All India Boy Scouts Association, which held a seminar on the second five year plan during their annual conference and the Y.M.C.A., also received similar grants.

GMGIPND—4 PC—25-6-60—11000